



Regulation 61-107. Solid Waste Management

Promulgated Pursuant to the
South Carolina Solid Waste Policy and Management Act,
S.C. Code Ann. § 44-96-10 et seq., as Amended

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South Carolina Department of Health and Environmental Control
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Table of Contents

Subregulation	Page
General.....	2
61-107.1 SWM: Solid Waste Management Grants, Recycling Education Grants, and Waste Tire Grants	2
61-107.2 SWM: Full Cost Disclosure.....	11
61-107.3 SWM: Waste Tires	14
61-107.4 SWM: Yare Trash and Land-Clearing Debris; and Compost	29
61-107.5 SWM: Collection, Temporary Storage and Transportation of Solid Waste.....	36
61-107.6 SWM: Solid Waste Processing Facilities	41
61-107.7 SWM: Transfer of Solid Waste	52
61-107.8 SWM: Lead Acid Batteries.....	60
61-107.9 SWM: White Goods	64
61-107.10 SWM: Research, Development, and Demonstration Permit Criteria	65
61-107.11 SWM: Construction, Demolition, and Land-Clearing Debris Landfills	70
61-107.12 SWM: Municipal Solid Waste Incineration and Municipal Solid Waste Pyrolysis Facilities.....	100
61-107.13 SWM: Municipal Solid Waste Incinerator Ash Landfills	118
61-107.14 SWM: Municipal Solid Waste Landfill Operator's Certification.....	172
61-107.15 SWM: Land Application of Solid Waste	181
61-107.16 SWM: Industrial Solid Waste Landfills	200
61-107.17 SWM: Demonstration-of-Need.....	261
61-107.18 SWM: Off-Site Treatment of Contaminated Soil.....	265
61-107.258 SWM: Municipal Solid Waste Landfills.....	284
61-107.279 SWM: Used Oil.....	350

General. The Solid Waste Management regulations are promulgated pursuant to the provisions of the Solid Waste Policy and Management Act of 1991, which became effective on May 27, 1991, as Act No. 63 of 1991. These regulations are promulgated to achieve the purposes set forth in the Act, as codified in Section 44-96-10 et seq.

R.61-107.1. Solid Waste Management: Solid Waste Management Grants, Recycling Education Grants, and Waste Tire Grants.

A. Applicability.

The intent of this regulation is to establish procedures for disbursement of solid waste management grants, recycling education grants and waste tire grants to local governments or regions for solid waste management and recycling education in accordance with the intent of the legislature; to assist local governments, regions and public school districts in meeting the requirements of the Solid Waste Policy and Management Act of 1991 (Act 63).

B. Definitions.

1. "Advance funds" means monies approved for known costs to the applicant before the quarterly report is due.

2. "Eligibility" means the standard or criteria by which a county or region or applicant qualifies for grant funds, as determined by the Office and the appropriate Council or Committee. These standards shall include, but are not limited to, completeness of the grant application, proof of existing accumulated waste tire sites, proposed methods of remediation and plans for disposal."

3. "Grant agreement" means the binding contract between the Office and the applicant.

4. "Grant application" means the initial request form for a grant through the Office.

5. "Grants, base portions" means that part of the grant equalling at least twenty-five percent (25%) of the total available in any given grant period.

6. "Grants, incentive portions" means that part of the solid waste reduction grant and recycling education grant equalling at least seventy-five percent (75%) of the total available in any given grant period.

7. "Grant period" means twelve months from the time the grant agreement is properly executed by all parties.

8. "Local government" means any municipality, county, district or authority or any agency thereof which has jurisdiction over the collection, recycling, disposal or treatment of solid waste.

9. "Matching Funds" means funds committed for purposes set forth in this rule in an amount equalling the total solid waste reduction incentive portion of solid waste grants or recycling education grants incentive portion awarded to a local government or region. Matching funds include budgeted funds, funds in escrow, and funds expended on solid waste reduction or recycling education related program activities, but do not include in-kind contributions.

10. "Municipal solid waste" includes any solid waste resulting from the operation of residential, commercial, governmental, or institutional establishments that would normally be collected, processed and disposed through a public or private solid waste management service. The term includes yard trash and industrial solid waste.

11. "Office" means the Office of Solid Waste Reduction and Recycling.

12. "Population" means the 1990 census determination.

13. "Program" means the grant program established and administered by the Office of Solid Waste Reduction and Recycling.

14. "Region" means two (2) or more counties in South Carolina which have prepared, approved and submitted a regional concept application to the Office of Solid Waste Reduction and Recycling for grant funds.

15. "Solid Waste Management Grant Program" means the grant program established and administered by the Office of Solid Waste Reduction and Recycling.

16. "Temporary operating subsidy" means the use of grant funds for operational expenses of a solid waste reduction program or a recycling education program, including personnel costs, training costs, rental of facilities, and other similar expenses approved by the Office.

C. General Grant Application Requirements.

1. Requests for funding shall be submitted to the Office on application forms provided by the Office.

2. Applications received from local governments, regions or public school districts which have not expended or accounted for any unused grant funds from a previous grant shall be denied by the Office. The grant period shall run for twelve months from the date of the executed grant agreement. Applications from local governments, regions or public school districts which have not met their obligations under the terms of any previous grant agreements for funds under this rule shall also be denied by the Office.

D. Disbursement of Funds.

1. Upon receipt and approval of the application, the Office shall determine the exact amount of the grant award and prepare a grant agreement.

2. The grant agreement will be forwarded to the applicant to be signed by a local government official, region official or public school district official for execution.

3. The applicant may request advance funds through the application process; however, known needs must be documented before advance funds can be approved. Within at least thirty (30) days of the properly executed grant agreement by all parties the advance funds will be forwarded to the applicant.

4. Any local government, region or public school district receiving grant funds will report on the status of the grant. Each quarterly report shall include information for reimbursement of actual costs and be submitted fifteen (15) days from the end of the previous quarter. Quarters shall run January 1st through March 31st, April 1st through June 30th, July 1st through September 30th and October 1st through December 31st of each calendar year.

5. The Office has the right to terminate a grant award and demand refund of grant funds for non-compliance with the terms of the award or these rules. The Office shall declare the local government, region or public school district ineligible for further participation in the program until the local government, region or public school district complies with the terms of the grant award or these rules.

E. Grant Recordkeeping.

1. Each recipient of grant funds shall maintain accurate records of all expenditures of grant funds, and shall assure that these records are available for inspection and/or audit upon request by the Office. Records shall be kept until July 31, 1996.

2. Recordkeeping information as required by the Office shall be included on each quarterly report.

F. Specific Solid Waste Management and Recycling Education Grant Requirements.

1. The Office will make available grant application forms to all local governments, and to all public school districts within the State.
2. Upon receipt and approval of the grant application the Office shall determine the amount of the grant award and prepare the grant agreement. Payment of grant awards will be contingent upon receipt and approval of the grant agreement.
3. All local governments applying jointly shall enter into a regional agreement that designates a lead applicant and describes how the funds will be disbursed and used. Any agency or authority created by regional agreement for solid waste management or recycling education purposes is eligible to apply for grants. The applicant shall submit all required documents in place of the local governments which are party to the agreement. Such applications and submittals shall be equivalent to those required if each local government were applying individually.
4. Applicant shall provide to the Office information on any previous state or federal grant received for the purpose of solid waste management or recycling. This information shall include the grant amount and the grant period.

G. Eligibility Requirements.

1. All applications shall include the following information for the area to be serviced under the terms of the grant:
 - a. A description of the solid waste management project or public education recycling project for which grant funds are requested, including any business and accounting plans for such projects;
 - b. An estimate of the quantity, source and type of materials to be collected and recycled under the proposed program, including an explanation of the methods used to estimate this quantity. The quantity shall include the volume of out-of-state waste coming into the service area, but records of out-of-state waste volume shall be shown as a separate item on each quarterly report;
 - c. A description of all existing or proposed recycling facilities, collection centers or other related service centers located within the county, including ownership, capacity, type of facility and approximate service area of such facilities;
 - d. Evidence that the grant is needed to achieve the goals set forth in the Solid Waste Policy and Management Act of 1991. This information will require an explanation of how the existing private and public sector recycling programs and efforts will be incorporated into the recycling and education program;
 - e. A summary of all costs incurred, or to be incurred, in planning or implementing the recycling and solid waste management and recycling education projects;
 - f. A copy of any regional agreement into which local governments have entered to accomplish the purposes of this rule;

g. Any written contracts, written bids or written agreements which were entered to develop and implement the solid waste management and recycling program;

h. The measurable objectives of the recycling education program, and an explanation of how the education program will directly promote the use of existing or planned local recycling projects; and,

i. A description of the methods to be used in evaluating the success of the solid waste management and recycling education programs. Progress reports and methods used to measure the progress shall be included in the quarterly reports.

2. The grant application shall include a recycling plan for the entire population of the service area (incorporated and unincorporated) containing at least the following information:

a. An explanation of the manner in which the recycling program will be implemented;

b. A timetable for the continued development and implementation of the recycling program;

c. The estimated percentage of the population participating in various types of recycling activities;

d. The estimated percent reduction each year in municipal solid waste disposed at solid waste disposal facilities as a result of public and private recycling programs, including the estimated success rates, perceived reasons for the estimated success or failure, and the public and private sector recycling activities which are ongoing and most successful;

e. An identification and description of the facilities where solid waste is being disposed or processed, the remaining available permitted capacity of such facilities, any planned increases in the capacity of such facilities, and the anticipated effect of recycling programs on the type and size of such facilities;

f. A description and evaluation of solid waste that is being recycled including, but not limited to, glass, aluminum, steel, bimetallic materials, office paper, yard trash, newsprint, corrugated paper, plastics, white goods, waste tires and yard trash;

g. The anticipated and available markets or uses for materials collected through recycling programs;

h. The estimated costs of and revenue from operating and maintaining existing and proposed recycling programs. This does not include specific costs and revenues from privately operated recycling programs, but a summary of such costs and revenues is required if the applicant intends to provide funding for such programs;

i. A description of any recycling activities implemented or existing prior to the effective date of the grant regulations;

j. For those local governments whose comprehensive plans required under the Solid Waste

Policy and Management Act of 1991 have been submitted at the time of application, an explanation of how the recycling programs relate to the future land use elements; sanitary sewer, solid waste, drainage, potable water, and natural groundwater aquifer properties; and capital improvements; and,

- k. A description of how all special wastes will be managed.

H. Special Requirements.

1. The Office shall not approve any solid waste management project or recycling education project unless the project directly promotes the success of that project for which the grant was intended.

2. Effective May 27, 1993, no local government or region shall receive a solid waste management grant unless the operator of each solid waste management facility owned or operated by the local government or region has completed an operator training course approved by the Office, as required under the State Solid Waste Policy and Management Act of 1991.

3. Grants shall not be provided to any local government, region or public school district that does not demonstrate a good faith effort to meet the requirements of the Solid Waste Policy and Management Act of 1991.

I. Use of Solid Waste Management and Recycling Education Grant Funds.

1. Solid waste management grants and recycling education grants shall be used to provide funding for solid waste management program capital costs or recycling program capital costs, which include equipment purchases, solid waste scales, facility construction and other such costs approved by the Office, as part of the grant agreement.

2. Solid waste management and recycling education grants may also be used for operating subsidies, provided that the applicant demonstrates that such a use is necessary for the success of the program, and shall show how the subsidy will benefit the program. Within one (1) year of the award the applicant shall provide reasonable assurances that the program will be able to operate without a subsidy from this grant program.

3. Solid waste management grants and recycling education grants shall also be used for projects to assist local governments, regions or public school districts in recycling paper, glass, plastic, construction and demolition debris, white goods, and metals and in composting and recycling the organic material component of municipal solid waste.

4. Solid waste management grants and recycling education grants shall be used to promote recycling, volume reduction, proper disposal of solid wastes, and market development for recyclable materials. Effective May 27, 1997, twenty-five percent (25%) of any grant monies available shall go to local governments, regions or public school districts which have met the solid waste reduction and recycling goals set forth in their solid waste management plans. Bonus grants must be used to fund activities which are related to solid waste management or recycling education.

5. All existing public and private recycling infrastructure shall be fully used to the extent possible when planning and implementing the local government, region or public school district solid waste

management or recycling education programs. Funds shall not be used for duplicating existing private and public recycling programs unless the applicant demonstrates that such existing programs cannot be integrated into the planned solid waste management programs or recycling education programs.

6. Solid waste management grants shall be used to ensure that all solid waste management facilities in this State are sited, designed, constructed, operated and closed in a manner which protects human health and safety and the environment.

J. Allocation of Solid Waste Management Grant Funds and Recycling Education Grant Funds.

1. Effective November 1, 1991, monies used to fund the activities of the Office, grants to local governments, regions, research by state-supported educational institutions and public education programs shall include:

- a. a two dollar fee (\$2.00) on each battery sold in this state;
- b. fifty cents (50¢) from a two dollar fee on each new tire sold in this State;
- c. a two dollar fee (\$2.00) on each white good sold in this State;
- d. eight cents (8¢) on each gallon of oil sold in this State;
- e. out-of-state solid waste disposal fees;
- f. contributions and grants from public and private sources;
- g. oil overcharge monies; and,
- h. monies appropriated by the General Assembly.

2. Local governments or regions may contract with private entities with pre-approval from the Office to assist in carrying out their responsibilities.

3. Each eligible local government, region or public school district shall receive a pro-rata share, based on total serviced population, of the funds in the Solid Waste Trust Fund.

4. Region applications shall be given priority status.

K. Waste Tire Grant Funds Application Requirements and Allocation.

1. The Office will make available waste tire grant application forms to each local government.

2. No later than January 1, 1993, the Office shall determine the first year grant funds available for waste tire grants from the waste tire account of the Solid Waste Management Trust Fund. Each year thereafter, the Office shall determine the amount of funds available.

3. Each county or applicant making application for waste tire grant funds shall meet eligibility requirements as determined by the Office and the State Waste Tire Advisory Committee prior to approval of the application. Counties should also consider the advantages of a regional program prior to receiving grant approval.

4. Upon request, the Office shall provide technical assistance to a local government or region desiring assistance in applying for waste tire grants or choosing a method of waste tire management which would be an eligible use of the grant funds.

L. Use of Waste Tire Grant Funds.

1. Funds in the Waste Tire Grant Trust Fund must be used exclusively through May 27, 1994, to fund grants to a county or region to pay for the cost of disposal of the accumulated waste tires.

2. A waste tire grant must be awarded on the basis of an approved written grant application and properly executed grant agreement. The application must be submitted through the Office for the Waste Tire Grant Committee or appropriate committee to consider. The Committee shall review waste tire grant applications and make recommendations on grant awards to the State Solid Waste Advisory Council. Waste Tire grants must be awarded by the State Solid Waste Advisory Council. Upon the cessation of the State Solid Waste Advisory Council the Waste Tire Grant Committee shall make recommendations to the Office.

3. The Committee may approve waste tire grants to local governments or regions to assist only in the following:

- a. constructing or operating a Tire Derived Fuel (TDF) burning facility for processing or building heat, electricity or other energy recovery;
- b. constructing or operating, or contracting for the construction or operation of a waste tire treatment facility and equipment for disposal;
- c. contracting for waste tire treatment facility services;
- d. removing or contracting for the removal of waste tires; or,
- e. performing or contracting for the performance of research designed to facilitate waste tire recycling or disposal.

4. Priority will be given to tire-derived-fuel (TDF) facilities that utilize existing combustion equipment and provide large volume uses.

M. Petroleum Grant Fund Allocation and Requirements.

1. Two-fifths (2/5) of the funds shall be used to establish incentive programs to encourage:

- a. individuals who change their own oil to return their used oil to used oil collection centers;

- b. the establishment and continued operation of collection centers which accept used oil; and,
- c. the establishment and continued operation of recycling facilities which prepare used oil for reuses or which utilize used oil in a manner that substitutes for a petroleum product made from new oil.

2. Two-fifths (2/5) of the petroleum fund shall be used to provide grants for local government or regional projects that the Office determines will encourage the collection, reuse and proper disposal of used oil and similar lubricants. Local government or regional activities may include one or more of the following programs:

- a. curbside pickup of used oil containers by a local government or its designee;
- b. retrofitting of solid waste equipment to promote curbside pickup or disposal of used oil at used oil collection centers designated by the local government;
- c. establishment of publicly operated used oil collection centers at landfills or other public places; or,
- d. providing containers and other materials and supplies that the public can utilize in an environmentally sound manner to store used oil for collection and return to the used oil collection center.

3. One-fifth (1/5) of the funds shall be used for public education and research including, but not limited to, reuses, disposal and development of markets for used oil and similar lubricants.

4. The petroleum oil fee shall be imposed until the unobligated principal balance of the Petroleum Fund equals or exceeds three million dollars (\$3,000,000.00). The Tax Commission shall be required to adjust the rate of the fee to reflect a full year's collection to produce the amount of revenue required in the fund. The increase or decrease in the fee made by the Tax Commission shall take effect for sales beginning on or after the first day of the third month following determination by the Commission.

N. Aggrieved Party Procedures.

1. Any party aggrieved by a grant decision of the Office may apply in writing within thirty (30) days of the decision to the State Solid Waste Advisory Council for a review of that decision.

2. Within forty-five (45) days of the original grant decision the Office shall inform the aggrieved party of the hearing date, place and time established to review the decision of the Office.

3. The State Solid Waste Advisory Council shall review the Office decision within sixty (60) days of the original grant decision date.

4. Upon the cessation of the State Solid Waste Advisory Council, grant decision reviews shall be heard by the appropriate review committee. The grant decision reviews shall be heard within the same time frame established for the State Solid Waste Advisory Council.

R.61-107.2. Solid Waste Management: Full Cost Disclosure.

A. Applicability.

This section applies to all local governments which provide solid waste management services.

B. Definitions.

1. "Collection" means the act of picking up solid waste material from homes, businesses, governmental agencies, institutions, or industrial sites.
2. "Composting Facility" means any facility used to provide aerobic thermophilic decomposition of the solid organic constituents of solid waste to produce a stable, humus-like material.
3. "County Solid Waste Management Plan" means a solid waste management plan prepared, approved, and submitted by a single county pursuant to Section 44-96-80 of the South Carolina Solid Waste Policy and Management Act of 1991.
4. "Department" means the South Carolina Department of Health and Environmental Control.
5. "Depreciation" means the decrease in value of property through wear, deterioration, or a decrease in usefulness (obsolescence).
6. "Facility" means all contiguous land, structures, other appurtenances and improvements on the land used for treating, storing, and/or disposing of solid waste. A facility may consist of several treatment, storage, and/or disposal operational units, including, but not limited to, one or more landfills, surface impoundments, or combination thereof.
7. "Full Cost Accounting" The use of an accounting system that isolates, and then consolidates for reporting purposes, the direct and indirect costs that relate to the operation of a solid waste management system.
8. "Incineration" means the use of controlled flame combustion to thermally break down solid, liquid, or gaseous combustible waste, producing residue that contains little or no combustible material.
9. "Industrial Waste" means solid waste that results from industrial processes including but not limited to, factories and treatment plants.
10. "Landfill" means a disposal facility or part of a facility where solid waste is placed in or on land, and which is not a land treatment facility, a surface impoundment, or an injection well.
11. "Local Government" means a county, any municipality located wholly or partly within the county, and any other political subdivision located wholly or partly within the county when such political subdivision provides solid waste management services.
12. "Materials Recovery Facility" means a solid waste management facility that provides for the extraction from solid waste of recoverable materials, materials suitable for use as a fuel or soil amendment, or any combination of such materials.

13. "Municipal Solid Waste Landfill" means any sanitary landfill or landfill unit, publicly or privately owned, that receives household waste. The landfill may also receive other types of solid waste, such as commercial waste, nonhazardous sludge, and industrial solid waste.

14. "Per Capita" means per unit of population or per person.

15. "Person" means an individual, corporation, company, association, partnership, unit of local government, state agency, federal agency, or other legal entity.

16. "Region" means a group of counties in South Carolina which is planning to or has prepared, approved, and submitted a Regional Solid Waste Management Plan to the Department pursuant to Section 44-96-80 of the South Carolina Solid Waste Policy and Management Plan of 1991.

17. "Regional Solid Waste Management Plan" means a solid waste management plan prepared, approved, and submitted by a group of counties in South Carolina pursuant to Section 44-96-80 of the South Carolina Solid Waste Policy and Management Act of 1991.

18. "Service Area" means the area in which the local government provides, directly or by contract, solid waste management services.

19. "Solid Waste" means any garbage, refuse, or sludge from a waste treatment facility, water supply plant, or air pollution control facility and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial mining, and agricultural operations and from community activities. This term does not include solid or dissolved material in domestic sewage, recovered material, or solid or dissolved materials subject to NPDES permits under the Federal Water Pollution Control Act, as amended, or the Pollution Control Act of South Carolina, as amended, or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1964, as amended. Also excluded from this definition are application of fertilizer and animal manure during normal agricultural operations, or refuse as defined and regulated pursuant to the South Carolina Mining Act, including processed mineral waste, which will not have a significant adverse impact on the environment.

20. "Solid Waste Disposal Facility" means any solid waste management facility or part of a facility at which solid waste is intentionally placed into or on any land or water and at which waste will remain after closure.

21. "Solid Waste Management Services" means all activities that are involved with trash and other waste collection, transportation, recycling and processing, and disposal.

22. "State Solid Waste Management Plan" means the plan which the Department of Health and Environmental Control is required to submit to the General Assembly and to the Governor pursuant to Section 44-96-80 of the South Carolina Solid Waste Policy and Management Act of 1991.

C. Full Cost Disclosure Regulations.

1. Not later than one (1) year after the effective date of this regulation and annually thereafter, each local government shall determine its full cost for its solid waste management services within its service

area for the previous fiscal year.

2. Each local government shall publish annually, on or before October 1 of the following year, a notice in a newspaper of general circulation in its service area setting forth the full cost and the cost to residential and nonresidential users, on an average or individual basis, of its solid waste management services within its service area for the previous fiscal year. In calculating the costs, local governments must include costs charged to them by persons with whom they contract for solid waste management services.

3. Each local government shall provide to the Solid Waste Management Division of the Department by October 15, a copy of the public notice of solid waste management cost as it appeared in the newspaper of general circulation as required by Section 2. In addition, the local government shall provide to the Department by October 15, completed copies of Forms one (1) and two (2), "Solid Waste Management Services Total Cost Report", and Solid Waste Management Services Full Cost Accounting Summary of Costs Report", respectively, provided as the attachment to this regulation.

4. For local governments which provide collection, recycling and composting, transfer station services, or other waste management services, without providing final disposal facilities, 'full cost' shall, at a minimum, include an itemized accounting of:

a. the cost of equipment, including, but not limited to, trucks, containers, compactors, parts, labor, maintenance, depreciation, insurance, fuel and oil, and lubricants for equipment maintenance;

b. the cost of overhead, including, but not limited to, supervision, payroll, land, office and building costs, personnel and administrative costs of running the waste management program, and support costs from other departments, government agencies, and outside consultants or firms;

c. the costs of employee fringe benefits, including, but not limited to, social security, worker's compensation, pension, and health insurance payments; and,

d. disposal costs and laboratory and testing costs.

5. For local governments which provide disposal services, 'full costs' shall include, at a minimum, an itemized accounting of:

a. the cost of land, disposal site preparation, permits and licenses, scales, buildings, site maintenance and improvements;

b. the costs of equipment, including operation and maintenance costs such as parts, depreciation, insurance, fuel and oil, and lubricants;

c. the costs of labor and overhead, including, but not limited to, supervision, payroll office and building costs, personnel and administrative costs of running the solid waste management program, and support costs from, and studies provided by, other departments, government agencies, and outside consultants or firms;

d. the costs of employee social security, workers compensation, pension and health insurance payments; and,

e. disposal costs, leachate collection and treatment costs, site monitoring costs, including, but not limited to, sampling, laboratory and testing costs, environmental compliance inspections, closure and post-closure expenditures, and escrow, if required.

6. A person operating under an agreement to collect or dispose of solid waste within the service area of a local government or region shall assist and cooperate with the local government or region to make the calculations or to establish a system to provide the information required under this section. However, contracts entered into prior May 27, 1991, are exempt from the provisions of this regulation.

R.61-107.3. Solid Waste Management: Waste Tires.

A. Applicability. This section applies to waste tire haulers, collectors, processors and disposers, except as specifically exempted.

B. Definitions.

1. "Department" means the South Carolina Department of Health and Environmental Control.
2. "Motor Vehicle" means an automobile, motorcycle, truck, trailer, semi-trailer, truck tractor and semitrailer combination, or any other vehicle operated on the roads of this state, used to transport persons or property, and propelled by power other than muscular power, but the term does not include traction engines, road rollers, such vehicles as run only upon a track, bicycles, moped, or farm tractors and trailers.
3. "Person" means an individual, corporation, company, association, partnership, unit of local government, state agency, federal agency, or other legal entity.
4. "Processed tire" means a waste tire that has been cut, shredded, burned or otherwise altered so that it is no longer whole.
5. "Quantity" means either volume, or actual number of tires. For purposes of this regulation, assume that there are one hundred (100) tires per ton and ten (10) whole tires per cubic yard.
6. "Residual" means any liquid, sludge, metal, fabric or by-product resulting from the processing or storage of tires. Residual does not include processed tires held for recycling or disposal.
7. "Service area" means an area in which the local government provides directly or by contract for solid waste management services.
8. "Solid waste management facility" means any solid waste disposal area, volume reduction plant, transfer station, or other facility, the purpose of which is the storage, collection, transportation, treatment, utilization, processing, recycling, or disposal, or any combination thereof, of solid waste. The term does not include a recovered materials processing facility or facilities which use or ship recovered materials, except that portion of the facilities which is managing solid waste.
9. "Temporarily" means, for the purposes of this regulation only, a time period of less than thirty (30)

days.

10. "Tire" means a continuous solid or pneumatic rubber covering encircling the wheel of a motor vehicle, trailer, or motorcycle as defined in S. C. Code Section 56-3-20(2), (4), and (13). It does not include an industrial press-on tire, with a metal or solid compound rim, which may be retooled.

11. "Tire disposal" means to deposit, dump, spill or place any waste tire, processed tire, or residuals into or upon any land or water.

12. "Tire recycling" means any process by which waste tires, processed tires, or residuals are reused or returned to use in the form of products or raw materials.

13. "Waste tire" means a whole tire that is no longer suitable for its originally intended purpose because of wear, damage, or defect.

14. "Waste tires for agricultural purposes" means waste tires which are generated during the normal production of plants and livestock and which are kept on-site for beneficial re-use.

15. "Waste tire collection site" means a permitted site, or a site exempted from the permit requirement, used for the temporary storage of waste tires prior to treatment or recycling.

16. "Waste tire disposal facility" means a site where waste tires are disposed of by burial or are recycled.

17. "Waste tire hauler" means a person engaged in the picking up or transporting of greater than one hundred twenty (120) waste tires per year for the purpose of storage, processing, or disposal.

18. "Waste tire processing facility" means a site where equipment is used to recapture reusable by-products from waste tires or to cut, burn, or otherwise alter whole waste tires so that they are no longer whole. The term includes mobile waste tire processing equipment.

19. "Waste tire site" means an establishment, site, or place of business, without a collector or processor permit, that is maintained, operated, used, or allowed to be used for the disposal, storing, or depositing of unprocessed used tires, but does not include a truck service facility which meets the following requirements:

- a. all vehicles serviced are owned or leased by the owner or operator of the service facility;
- b. no more than two hundred (200) waste tires are accumulated for a period of not more than thirty (30) days at a time;
- c. the facility does not accept any tires from sources other than its own; and,
- d. all waste tires are stored under a covered structure.

20. "Wetlands area" means those areas delineated and defined specifically as wetlands according to the methodology accepted by the U. S. Army Corps of Engineers and the U. S. Environmental

Protection Agency.

C. Waste Tire Permit Requirements.

1. All applications for permits and registrations required by this regulation for existing facilities or mobile operations shall be submitted to the Department within ninety (90) days after the effective date of this rule unless otherwise indicated.

2. All applications for permits and registrations required by this regulation for new facilities or mobile operations shall be submitted to the Department on forms specified by the Department. No construction of the proposed facilities or equipment shall begin until all required permits are final.

3. All tires to be landfilled or stored on site for greater than thirty (30) days shall, at a minimum, be cut in eighths. An exemption to this requirement can be requested by the applicant and may be approved on a case by case basis.

D. Waste Tire Permit Exemptions.

This regulation does not apply to items (1) through (6) below if these designated waste tire sites are maintained so as to prevent and control mosquitos or other public health nuisances as determined by the Department:

1. a tire retailing business where less than one thousand (1000) waste tires are kept on the business premises;

2. a tire retreading business where less than two thousand five hundred (2500) waste tires are kept on the business premises, or a tire retreading facility that is owned or operated by a company that manufactures tires in this State or the tire manufacturer's parent company or its subsidiaries;

3. a business that, in the ordinary course of business, removes tires from motor vehicles, if less than one thousand (1000) of these tires are kept on the business premises;

4. a permitted solid waste management facility with less than two thousand five hundred (2500) waste tires temporarily stored on the business premises;

5. a person using waste tires for agricultural purposes; or,

6. a manufacturer who disposes only of tires generated in the course of its scientific research and development activities, so long as the waste tires are buried on the facility's own land or that of its affiliates or subsidiaries and the disposal facility is in compliance with all applicable regulations.

E. Waste Tire Prohibitions.

1. After the effective date of this regulation, no person shall operate a waste tire collection site, processing facility, or disposal site, unless the site is permitted in accordance with this regulation.

2. After the effective date of this regulation, no person shall act as a waste tire hauler unless

registered in accordance with this regulation.

3. After the effective date of this regulation, no person shall dispose of waste tires or processed tires except at a permitted solid waste management facility. Collection of waste tires at a permitted waste tire processing facility or waste tire collection center prior to processing or use does not constitute disposal, provided that the collection complies with this regulation.

4. Six (6) months after the effective date of this regulation, no person shall knowingly dispose of whole waste tires in a landfill.

5. After the effective date of this regulation, no person shall store waste tires unless the waste tires are:

a. Collected and stored at a permitted waste tire collection center, permitted in accordance with this regulation; or,

b. Collected and stored before processing and recycling or disposal in a permitted solid waste management facility.

6. No person shall contract with a waste tire collector for the transportation, disposal, or processing of waste tires unless the collector is permitted by the Department for such activities.

F. Waste Tire Hauler Requirements. The requirements of this section apply to haulers of waste tires and processed tires.

1. Persons who use company-owned or company-leased vehicles to transport tire casings for the purposes of retreading between company-owned or company-franchised retail tire outlets and retread facilities owned or franchised by the same company are not considered waste tire haulers unless they also transport waste tires.

2. After the effective date of this regulation, any waste tire hauler engaged in transporting waste tires for the purpose of storage, disposal, or processing shall be registered with the Department and shall have received a registration number.

3. For a hauler who was transporting waste tires on the effective date of this regulation, the application for registration shall be submitted within ninety (90) days after the effective date of this regulation. For a new hauler, the application for registration shall be submitted at least thirty (30) days before the hauler intends to begin transporting waste tires. Renewal applications shall be submitted at least thirty (30) days before the expiration date of the existing registration. A hauler shall renew the registration annually by March 1. The application shall be on a form provided by the Department, and shall contain at a minimum the following information:

a. The name and address of the hauling company and the names and addresses of the officers or owners of the hauling company;

b. Information on the geographic area to be served for waste tire collection, and the locations in South Carolina or elsewhere to which the waste tires will be transported for storage, processing, or

disposal; and,

- c. The annual report required in Section (6) below (for renewal application only).
4. A corporate entity or local government may submit one application for registration for its entire fleet of vehicles.
5. A waste tire hauler shall record and maintain for three (3) years the following information regarding its activities for each three (3) month period of operation. These records shall be available for inspection by Department personnel during normal business hours:
- a. The approximate quantity of waste tires or processed tires hauled;
 - b. Where and from whom the waste tires or processed tires were hauled; and,
 - c. Where the waste tires or processed tires were deposited. For at least three (3) years the waste tire hauler shall keep receipts or other written materials documenting where all waste tires or processed tires were stored or disposed.
6. Waste tire haulers shall submit to the Department an annual report that summarizes the information collected under Section 5. above on a form to be provided by the Department. This report shall be submitted to the Department annually by March 1.
7. Waste tires shall be transported under such conditions and circumstances so as to control mosquitoes and prevent their spread.
8. A waste tire hauler shall deposit waste tires and processed tires for storage or disposal only in a permitted waste tire processing or collection facility, at a permitted solid waste management facility, or at another site approved by the Department.
9. Any person who fails to comply with this regulation is subject to having its waste tire hauler registration number revoked.
10. When a waste tire hauler registration number expires or is revoked, the applicant shall immediately cease all tire hauling operations.

G. Collection Facility Requirements. The requirements of this section apply to collectors of waste tires.

- 1. After the effective date of this regulation, no person shall operate a waste tire collection site, unless the site is permitted in accordance with this regulation.
- 2. At least seventy-five (75%) per cent of both the waste tires and processed tires that are delivered to or are contained on the site of a waste tire collection facility at the beginning of each calendar quarter shall be processed and removed for disposal from the facility during the quarter.
- 3. Waste tires stored indoors shall meet the same storage criteria as tires stored outdoors unless

otherwise specified by the Department.

4. All waste tire collection facilities and any processing or disposal facilities which store greater than one hundred twenty (120) waste tires or processed tires at any one time must comply with the following technical and operational standards:

a. A waste tire collection facility shall not be constructed, maintained or operated in or within 200 feet of a body of water, or in any wetlands area. A person may maintain a waste tire site within a 200 foot setback upon demonstration to the Department that permanent control methods for residuals will result in compliance with water quality standards. The site shall be managed in such a way as to divert stormwater or floodwaters around and away from the storage piles;

b. A waste tire pile or processed tire pile shall have no greater than the following maximum dimensions:

- (1) Width: 50 feet;
- (2) Area: 10,000 square feet; and,
- (3) Height: 15 feet;

c. A 50 foot wide fire lane shall be placed around the perimeter of each waste tire pile. Access to the fire lane for emergency vehicles must be unobstructed at all times;

d. The owner or operator shall control mosquitoes and rodents so as to protect the public health and welfare and to prevent public health nuisances on or sourced from the facility. The owner or operator shall implement such mosquito control measures or other pest control measures as may be required by the Department and/or local mosquito control program. Records shall be kept of all mosquito control activities and made available upon request;

e. If the facility receives tires from persons other than the operator of the facility, a sign shall be posted at the entrance of the site stating operating hours, cost of disposal and site rules;

f. No operations involving the use of open flames shall be conducted within 50 feet of a waste tire pile;

g. An approach and access road to the waste tire facility shall be kept passable for emergency vehicles at all times;

h. Access to the facility shall be controlled through the use of fences, gates, natural barriers or other Department approved means;

i. An attendant shall be present when the waste tire facility is open for business if the site receives tires from persons other than the operator of the site, otherwise the facility shall be secured from public access;

j. The facility shall be bermed or given other adequate protection deemed necessary by the

Department to keep liquid runoff from a potential tire fire from entering a body of water;

k. Fire protection services for the facility shall be assured through arrangements with local fire protection authorities. Documentation of these arrangements must be provided;

l. Communication equipment shall be maintained at the waste tire facility to assure that the site operator can contact local fire protection authorities in the event of an emergency;

m. The waste tire facility shall be kept free of grass, underbrush, and other potentially flammable material at all times;

n. The operator of the facility shall prepare and keep at the site an emergency preparedness manual. The manual shall be updated at least once a year. The manual shall contain, at a minimum, the following elements:

(1) A list of names and telephone numbers of persons to be contacted in the event of a fire, flood, or other emergency;

(2) A list of the emergency response equipment at the site, its location clearly shown on a site map, and instructions for use in the event of a fire or other emergency; and,

(3) A description of the procedures that should be followed in the event of a fire, including, but not limited to, procedures to contain and dispose of the oily material generated by the combustion of large numbers of tires;

o. The operator of the facility shall immediately notify the Department in the event of a fire or other emergency if that emergency has potential off-site effects. If the emergency occurs after normal business hours the facility shall contact the Department through the Department's 24-Hour Emergency Response Number. Within two (2) weeks of any emergency involving potential off-site impact, the operator of the site shall submit to the Department a written report on the emergency. This report shall describe the origins of the emergency, the actions that were taken to remediate the emergency, the results of the actions that were taken, and an analysis of the success or failure of the actions; and,

p. The operator of the facility shall maintain records of the quantity of waste tires and processed tires received at the site, stored at the site, and shipped from the site.

5. The storage of processed tires shall meet all of the storage criteria as stated in this section.

6. The owner or operator of a waste tire collection facility shall record and maintain for three (3) years the following information regarding its activities. These records shall be available at the site for inspection by Department personnel during normal business hours:

a. For all waste tires and processed tires shipped from the facility, the name and waste tire hauler, registration number of the waste tire hauler who accepted the waste tires or processed tires for transport, the quantity of waste tires or processed tires shipped with that hauler, and the place where the waste tires or processed tires were deposited;

b. For all waste tires and processed tires received at the facility, the name and waste tire hauler registration number of the hauler who delivered the waste tires or processed tires to the facility, and the quantity of waste tires or processed tires received from that hauler; and,

c. For all waste tires removed for recapping, the quantity and type removed, and the name and location of the recapping facility receiving the tires.

7. Owners and operators of waste tire collection facilities shall submit to the Department an annual report, by March 1, that summarizes the information collected under Section (6) above, and the information outlined below:

a. The facility name, address and permit number;

b. The year covered by the report;

c. The total quantity and type of waste tires or processed tires received at the facility during the year covered by the report;

d. The total quantity and type of waste tires or processed tires shipped from the facility during the year covered by the report;

e. The general disposition of waste tires or processed tires; and,

f. The total quantity and type of waste tires or processed tires located at the facility on the first day of the calendar year.

8. The temperature of any above-ground piles of compacted, processed tires over 1,000 cubic yards in size shall be monitored and may not exceed 302 degrees Fahrenheit (150 ° C). Temperature control measures shall be instituted so that pile temperatures do not exceed 302 degrees Fahrenheit (150° C). Temperature monitoring and controls are not required for uncompacted processed tires disposed of in permitted landfills.

9. Any residuals from waste tire processing shall be managed so as to be contained on-site, and must be controlled and disposed in a permitted solid waste management facility or properly recycled.

10. The Department shall approve exceptions to the preceding technical and operational standards for a person processing waste tires if:

a. No waste tires or processed tires are stored on that site for more than thirty (30) days and adequate vector control measures are taken; and,

b. The Department, after consultation with the local fire authority, is satisfied that the site owner or operator has sufficient fire suppression equipment or materials on site to extinguish any potential tire fire within an acceptable period of time, as determined by the local fire authority.

11. All applications for waste tire collection facilities must include a closure plan which shall include at a minimum the following:

- a. Schedule for removal of all waste or processed tires and residuals; and,
- b. Certification that all waste or processed tires remaining on site will be transported to a permitted processing or disposal facility.

12. All applications for tire collection facilities shall be accompanied by certification that the project is consistent with the applicable goals and objectives of solid waste management plans in the proposed service area of the facility and of the South Carolina State Solid Waste Management Plan in effect at the time of permit application.

13. All applications for waste tire collection facilities, shall demonstrate the site is in compliance with all local zoning ordinances.

H. Waste Tire Processing Facility Requirements. The requirements of this section apply to Processors of waste tires.

1. After the effective date of this regulation, no person shall operate a waste tire processing facility, unless the site is permitted in accordance with this regulation.

2. All waste tires and processed tires shall be stored in accordance with the Waste Tire Collection Facility requirements, Section G.

3. A waste tire processing facility may not accept any waste tires for processing if it has reached its storage limit. The storage limit for processing facilities is 30 times the daily through-put of the processing equipment used. At least 75 per cent of both the waste tires and processed tires that are delivered to or are contained on the site of the waste tire processing facility at the beginning of each calendar year must be processed and removed for disposal or recycling from the facility during the year, or disposed on the site in a permitted solid waste management facility.

4. The owner or operator of a waste tire processing facility shall record and maintain for three (3) years the following information regarding its activities. These records shall be available at the site for inspection by Department personnel during normal business hours:

- a. For all waste tires and processed tires shipped from the facility, the name and waste tire hauler registration number of the waste tire hauler who accepted the waste tires or processed tires for transport, the quantity of waste tires or processed tires shipped with that hauler, and the place where the waste tires or processed tires were deposited;

- b. For all waste tires and processed tires received at the facility, the name and waste tire hauler registration number of the hauler who delivered the waste tires or processed tires to the facility, and the quantity of waste tires or processed tires received from that hauler; and,

- c. For all waste tires removed for recapping, the quantity and type removed, and the name and location of the recapping facility receiving the tires.

5. Owners and operators of waste tire processing facilities shall submit to the Department an annual

report, by March 1, on a form provided by the Department, that summarizes the information collected under Section (4) above, and the information outlined below:

- a. The facility name, address and permit number;
- b. The year covered by the report;
- c. The total quantity and type of waste tires or processed tires received at the facility during the year covered by the report;
- d. The total quantity and type of waste tires or processed tires shipped from the facility during the year covered by the report;
- e. The general disposition of waste tires or processed tires; and,
- f. The total quantity and type of waste tires or processed tires located at the facility on the first day of the calendar year.

6. All applications for waste tire processing facilities shall include a closure plan which shall include at a minimum the following:

- a. Schedule for removal of all waste or processed tires and residuals; and,
- b. Certification that all waste or processed tires remaining on site will be transported to a permitted processing or disposal facility.

7. All applications for tire processing facilities shall be accompanied by certification that the project is consistent with the applicable goals and objectives of solid waste management plans in the proposed service area of the facility and of the South Carolina State Solid Waste Management Plan in effect at the time of permit application.

8. All applications for waste tire processing facilities shall demonstrate the site is in compliance with all local zoning ordinances.

I. Waste Tire Disposal Facility. This section applies to all Waste Tire Disposal Facilities.

1. After the effective date of this regulation, no person shall operate a waste tire disposal site, unless the site is permitted in accordance with this regulation.

2. Land disposal of cut or chopped tires is an acceptable method of disposal provided;

- a. The disposal location site shall:
 - (1) be easily accessible to collection vehicle(s);
 - (2) have an adequate quantity of acceptable earth or other approved cover material; and,

- (3) meet local zoning restriction;

b. The request for a permit to construct and/or operate a disposal site shall include:

- (1) Map or aerial photograph of the area showing land use and zoning within 1/4 mile of the solid waste disposal site. The map or aerial photograph shall be of sufficient scale to show all homes, buildings, establishments, roads and other applicable details and shall indicate the general topography of the area;

- (2) Plot plan of the site showing dimensions, proposed trenching plan or original fill face, cover stock piles, and fencing. Cross sections shall be included on the plot plan or on separate sheets showing both the original and proposed fill elevations. The scale of the plot plan should not be greater than 200 feet per inch; and,

- (3) A report shall accompany the plans indicating:

- (a) source and quantity of cover material;

- (b) frequency of covering;

- (c) depth of cell(s);

- (d) anticipated quantity and source of waste tire to be disposed at the site; and,

- (e) the engineering plans shall include one or more topographic maps at a scale of not over 200 feet to the inch. Contour intervals shall not exceed 10 feet. These maps shall show any proposed fill area; any borrow area; access roads; grades for proper drainage of each lift required and a typical cross section of a lift; special drainage devices if necessary; fencing; equipment shelters; existing and proposed utilities; employee facilities; elevation of the seasonal high water table; and all other pertinent information to clearly indicate the orderly development, operations and completion of the site;

c. The disposal site shall be provided with operational features and appurtenances necessary to maintain a clean and orderly operation. These minimum features are:

- (1) operational plans to direct and control the use of the site;

- (2) fencing of the site to control access, as necessary; and,

- (3) an all-weather access road to the site;

d. In order to provide suitable staff and equipment to man and operate the site, the following is required:

- (1) equipment or adequate contractual arrangements for equipment sufficient for excavating, earth moving, spreading, and covering operations;

- (2) shelter for maintenance and storage of parts, equipment and tools; and,

- (3) reserve equipment available within 24 hours following equipment breakdown; and,
- e. The site shall be maintained and operated in conformance with the following requirements:
 - (1) solid waste shall be disposed in such a manner that materials are confined and will have no detrimental effect on the environment;
 - (2) surface water shall be diverted from the tire disposal area;
 - (3) within one (1) month after final termination of disposal operations at the site, or a major part thereof, the area shall be covered with at least two (2) feet of compacted earth material adequately sloped to allow surface water runoff;

(4) all tires shall be covered at least every thirty (30) days with at least six (6) inches of well compacted soil;

(5) the finished surface of the disposal site shall be seeded with native grasses or other suitable ground cover immediately upon completion of that portion of the disposal site;

(6) the solid waste shall be spread and compacted in thin layers if applicable. Each layer of a cell shall normally be no more than two (2) feet deep prior to compaction and each cell should be no more than 8-10 feet deep;

(7) conditions unfavorable for the habitation and production of insects and rodents shall be maintained at all times. The owner and/or operator shall prevent and control mosquitoes and rodents so as to protect the public health and welfare and to prevent public health nuisances on, or sourced from the facility. The owner and/or operator shall implement such control and prevention measures for mosquitoes, rodents, or other pests as may be required by the Department or local health department or mosquito control program may require. Records of all mosquito, rodent, or pest control activities must be kept and made available to the Department upon request;

(8) controlled access to the site must be maintained to keep unauthorized persons out. Access to the site shall be limited to those times when attendants are on duty or only to those authorized to use the site for the disposal of tires; and,

(9) the base grade elevation of the actual disposal area shall be two (2) feet above the seasonal high water table as it exists prior to construction of the disposal area. The seasonal high water table shall be determined based on interpretation of the data from a representative number of geotechnical type borings, unless alternate information can be provided to the Department to ensure that a two (2) foot separation from groundwater will be maintained throughout the life of the disposal area.

3. Other methods of tire disposal are acceptable provided:

a. The disposal location site:

(1) is easily accessible to collection vehicles; and,

(2) meets local zoning restrictions;

b. The request for a permit to operate a disposal site shall be on a form provided by the Department;

c. The request for a permit must also contain the information outlined in Section I(2)(c) and (d) and I(2)(e)(7) and (8).

4. All permits for waste tire disposal facilities issued under this regulation, shall include a Department approved closure and post-closure plan which must contain the following:

a. The closure plan for land disposal sites must include, at a minimum, the following:

(1) Typical drawings that show:

- (a) Final grades and elevations;
- (b) Final cover details;
- (c) Maximum and minimum slopes; and,
- (d) Erosion and sedimentation control measures; and,
- (2) Detailed discussion of:
 - (a) Final cover (design, source of, etc.);
 - (b) Vegetative cover;
 - (c) Erosion and sedimentation control measures;
 - (d) Schedule for closure; and,
 - (e) The post-closure use of the property.

b. A Post-Closure Care Plan must describe in detail:

(1) The steps necessary to maintain the integrity and effectiveness of any final cover, including making repairs to the cover as necessary to correct the effects of settling, subsidence, erosion and preventing run-on and run-off from eroding or otherwise damaging the final cover; and,

(2) Schedules for routine inspection of vegetative cover, final cover and drainage systems.

5. The owner or operator of a waste tire disposal facility shall record and maintain for three (3) years information regarding its activities. All records shall be available at the site for inspection by Department personnel during normal business hours. The owner or operator shall keep for all waste tires and processed tires received at the facility, the name and waste tire hauler registration number of the hauler who delivered the waste tires or processed tires to the facility, in addition to, the quantity of waste tires or processed tires received from that hauler.

6. Owners and operators of waste tire disposal facilities shall submit to the Department an annual report, by March 1, that summarizes the information collected under Section (5) above, and the information outlined below:

- a. The facility name, address and permit number;
- b. The year covered by the report;
- c. The total quantity and type of waste tires or processed tires received at the facility during the year covered by the report; and,

d. The total quantity and type of waste tires or processed tires located at the facility on the first day of the calendar year.

7. All applications for tire disposal facilities shall be accompanied by certification that the project is consistent with the applicable goals and objectives of solid waste management plans in the proposed service area of the facility and of the South Carolina State Solid Waste Management Plan in effect at the time of permit application.

8. All applications for waste tire disposal facilities, shall demonstrate the site is in compliance with all local zoning ordinances.

J. Closure And Post Closure Procedures.

1. Financial Assurance.

a. Waste tire sites which are exempted from permitting shall be exempt from securing financial assurance for completing closure of their facilities.

b. Permitted facilities shall fund a financial assurance mechanism acceptable to the Department for completing final closure prior to accepting waste tires. A final closure cost estimate, based on third party costs to complete closure by disposing of the maximum quantity of material at a permitted facility shall be performed annually and adjusted annually, if necessary. The financial responsibility requirements shall not apply to any local government or region comprised of local governments which owns and operates a municipal solid waste management facility unless and until such time as federal regulations require such local governments and regions to demonstrate financial responsibility for such facilities.

2. Closure Procedures - Permitted and waste tire sites shall be required to close the facility in accordance with the following procedures:

a. At least sixty (60) days prior to closure, provide written notice of intent to close and a proposed closure date to the Department;

b. Upon closing, immediately post closure signs at the facility;

c. Complete removal of waste tires and cleaning of the waste handling areas within ten (10) days of closure and request Department inspection and approval of closure; and,

d. Within sixty (60) days of closure, grade land to promote positive drainage and seed with native vegetation to prevent erosion.

K. Closure of Non-Permitted Sites. This section applies to non-permitted existing tire disposal sites.

1. Any existing waste tire site which does not meet the requirements of this regulation, shall close within six (6) months of the effective date of this regulation or shall have applied to upgrade the facility to the standards outlined in these regulations.

2. A closure plan must be approved by the Department prior to initiation of closure activities. The

closure plan shall include:

- a. A description of how the closure requirements of Section J(2) above will be met;
 - b. A closure schedule, including time period for completion; and,
 - c. A plan for site rehabilitation if deemed necessary by the Department.
3. In closing any waste tire site the owner or operator shall:
- a. Stop public access to the site;
 - b. Post a notice indicating the site is closed and the nearest site where waste tires can be deposited;
 - c. Notify the Department and county government of the closing;
 - d. Remove all waste tires, processed tires and residuals to a waste tire processing facility, solid waste management facility authorized to accept waste tires or processed tires, or a legitimate user of processed tires;
 - e. Remove any solid waste to a permitted solid waste management facility; and,
 - f. Notify the Department when closure is complete.
4. After receiving notification that site closure is complete, the Department shall inspect the site. If all procedures have been correctly completed, the Department shall approve the closure in writing.

R.61-107.4. Solid Waste Management: Yard Trash and Land-Clearing Debris; and Compost.

A. Applicability. This regulation is to ensure the proper disposal and management of yard trash and land-clearing debris, and to encourage and regulate the production and use of compost made from yard trash and land-clearing debris.

B. Definitions.

- 1. "Backyard Composting" means the on-site composting of yard waste from residential, commercial, or industrial property by the owner or tenant for non-revenue generating use when all materials are generated and composted on-site.
- 2. "Biodegradable" means capable of being decomposed by natural biological processes.
- 3. "Buffer" means the space between two (2) entities reserved for non-activity.
- 4. "Compost" means the humus-like end product of the process of composting waste.

5. "Composting" means the process of making compost.
6. "Composting facility" means any facility used to provide aerobic, thermophilic decomposition of the solid organic constituents of solid waste to produce a stable, humus-like material.
7. "Composting Pad" means a surface, whether soil or manufactured, where the process of composting takes place, and where raw and finished materials are stored.
8. "Degradable" with respect to any material, means that the material, after being discarded, is capable of decomposing to components other than heavy metals or other toxic substances after exposure to bacteria, light, or outdoor elements.
9. "Department" means the South Carolina Department of Health and Environmental Control.
10. "Hygienically" means promoting health; sanitary.
11. "Land-clearing debris" means solid waste which is generated solely from land-clearing activities, but does not include solid waste from agricultural or silvicultural operations.
12. "Leachate" means the liquid that has percolated through or drained from solid waste or other man-emplaced materials and that contains soluble, partially soluble, or miscible components removed from such waste.
13. "Mesophilic stage" means a biological stage in the composting process characterized by active microorganisms which favor a moderate temperature, range of 20° to 45° C (68° to 113° F). It occurs later in a composting process after the thermophilic stage and is associated with a moderate rate of decomposition.
14. "Mulch" means wood chips, leaves, straw, etc., spread on the ground around plants to prevent evaporation of water from soil, freezing of roots, etc.
15. "Municipal solid waste landfill" means any sanitary landfill or landfill unit, publicly or privately owned, that receives household waste. The landfill may also receive other types of solid waste, such as commercial waste, nonhazardous sludge, and industrial solid waste.
16. "Owner/operator" means the person who owns the land on which a solid waste management facility is located or the person who is responsible for the overall operation of the facility, or both.
17. "Person" means an individual, corporation, company, association, partnership, unit of local government, state agency, federal agency, or other legal entity.
18. "Resource recovery facility" means a combination of structures, machinery, or devices utilized to separate, process, modify, convert, treat, or prepare collected solid waste so that component materials or substances or recoverable resources may be used as a raw material or energy source.
19. "Runoff" means any rainwater, leachate, or other liquid that drains over land from any part of a facility.

20. "Silviculture Waste" means waste materials produced from the care and cultivation of forest trees, including bark and woodchips.

21. "Solid Waste" means any garbage, refuse, or sludge from a waste treatment facility, water supply plant, or air pollution control facility and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations and from community activities. This term does not include solid or dissolved material in domestic sewage, recovered materials, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to NPDES permits under the Federal Water Pollution Control Act, as amended, or the Pollution Control Act of South Carolina, as amended, or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1964, as amended. Also excluded from this definition are application of fertilizer and animal manure during normal agricultural operations or refuse as defined and regulated pursuant to the South Carolina Mining Act, including processed mineral waste, which will not have a significant adverse impact on the environment.

22. "Solid waste management facility" means any solid waste disposal area, volume reduction plant, transfer station, or other facility, the purpose of which is the storage, collection, transportation, treatment, utilization, processing, recycling, or disposal, or any combination thereof, of solid waste. The term does not include a recovered materials processing facility or facilities which use or ship recovered materials, except that portion of the facilities which is managing solid waste.

23. "Thermophilic stage" means a biological stage in the composting process characterized by active microorganisms which favor a high temperature range of 45° to 75° C (113° to 167° F). It occurs early in a composting process before the mesophilic stage and is associated with a high rate of decomposition.

24. "Untreated woodwaste" means wood that has not undergone any type of treatment for preservation, etc.

25. "Vector" means an animal or insect that may transmit disease producing organisms from one host to another.

26. "Windrow" means an elongated compost pile.

27. "Yard trash" means solid waste consisting solely of vegetative matter resulting from landscaping maintenance.

C. General Provisions.

1. Effective May 27, 1993, disposal of yard trash and land-clearing debris in a municipal solid waste landfill or a resource recovery facility shall be prohibited, unless the landfill provides and maintains a separate yard trash and land-clearing debris composting area and the yard trash and land-clearing debris have been separated from other municipal solid waste.

2. Prior to the construction, operation, expansion or modification of a composting facility using yard trash and land-clearing debris and/or a wood chipping facility that chips untreated wood waste, the facility shall be registered by the Department.

3. This regulation does not apply to the following activities provided no public nuisance or any condition adversely affecting the environment or public health is created, and the activity complies with all other State and local laws, ordinances, rules, regulations, and orders:

- a. Backyard composting where the compost is produced from materials grown on site;
- b. Farming operations where the compost is produced from materials grown on the owner's land;
- c. Mobile chipping/shredding equipment which chips/shreds woodwaste, e.g., the type used by utilities to clear rights-of-way or manage storm debris, and which may spread the woodwaste on rights-of-way after it has been chipped or shredded. Chipped/shredded woodwaste or storm debris, temporarily stockpiled in lieu of spreading after the effective date of this regulation, shall be removed within ninety (90) days in order to be exempt from the requirements of this regulation. The Department shall be notified in writing within ten (10) working days of the establishment of these stockpiles. In addition, any active piles as of the effective date of this regulation shall be removed within one hundred eighty (180) days of the effective date of this regulation. Inactive piles as of the effective date of this regulation are exempt from the requirements of this regulation;
- d. Temporary chipping/shredding and storage of woodwaste for distribution to the public, e.g., Grinding of the Greens and other similar programs, as approved by the Department;
- e. Shredding or chipping of untreated wooden pallets or other wooden packaging utilized by industry in its own operations that have not been in direct contact with hazardous constituents, e.g., petroleum products, pesticides, lead-based paint, etc.; and,
- f. Composting at industrial sites where the compost is produced from materials grown on properties under the same ownership or control within one fourth (1/4) mile of each other, unless otherwise approved by the Department and where the compost product is used for noncommercial purposes.

4. All State agencies, all political subdivisions using State funds to procure items, and all persons contracting with such agency or political subdivision where such persons procure items with State funds shall procure composted materials and products where practicable, subject to the provisions of Section 44-96-140(D) of the South Carolina Solid Waste Policy and Management Act of 1991.

5. Compost shall not be used in any manner that will endanger public health and welfare, and the environment, or would violate the provisions of this regulation.

D. Registration Requirements for Composting and Wood Chipping Facilities. Prior to the construction, expansion, or modification of a composting and/or wood chipping facility a report shall be submitted to and be approved by the Department. This report shall contain the following information:

- 1. Name and telephone number of the owner of the facility;
- 2. Name and telephone number of the person responsible for operation of the facility;
- 3. Procedure for prevention of fires;

4. Procedure for control of vectors;
5. Procedure for odor control;
6. Procedure for control and inspection of incoming waste;
7. Method for measuring incoming waste;
8. Procedure for control of storm water drainage;
9. Anticipated type, source, and composition of waste to be received; and,

10. Outline of a financial assurance mechanism for closure and post-closure procedures. Financial assurance requirements do not apply to local governments or regions comprised of local governments unless and until such time as federal regulations require such local governments and regions to demonstrate financial responsibility for such facilities.

E. Design Criteria for Composting and Wood Chipping Facilities.

1. Facilities located over closed-out landfills shall have sufficient structural support for the operation including total waste received, material processed, compost stored, equipment, and structures to be built on site.

2. The design of the facility shall follow acceptable management practices for composting methods which result in the aerobic, thermophilic decomposition of the solid organic constituents of solid waste to produce a stable, hygienically safe humus-like material.

3. The site for the facility shall meet the following standards:

- a. A site located in a flood plain shall not restrict the flow of the 100-year flood;
- b. A site shall be maintained and operated in a manner which protects the established water quality standards of the surface waters and ground waters;
- c. A 50-foot minimum buffer shall be required between all property lines and compost pad or storage area;
- d. A 200-foot minimum buffer shall be required between compost pad or storage area and residences or dwellings;
- e. A 200-foot minimum buffer shall be required between streams and rivers and compost pad or storage area;
- f. A 100-foot minimum buffer shall be required between all drinking water wells and the active composting area;

g. The bottom elevation of the compost pad and storage areas shall be a minimum of two (2) feet above seasonal high water table as it exists prior to construction of the disposal area. The seasonal high water table shall be determined based on interpretation of the data from a representative number of geotechnical type borings, unless alternate information can be provided to the Department to ensure that a two (2) foot separation from groundwater will be maintained throughout the life of the disposal, i.e. compost, area;

h. A site shall comply with all of the requirements of the local zoning ordinance;

i. Access to the site shall be controlled through the use of fences, gates, berms, natural barriers, or other means;

j. A site shall not be located within any wetlands as delineated and defined specifically as wetlands according to the methodology accepted by the U. S. Army Corps of Engineers and the U. S. Environmental Protection Agency;

k. Alternative buffers for a covered facility shall be approved by the Department on a case by case basis; and,

l. Access to fire equipment and fire fighting services shall be provided.

F. Operation Criteria. The operational requirements of this section apply to all facilities that compost yard trash and land-clearing debris and/or chip untreated wood waste.

1. The facility shall be operated in a manner to control vectors.

2. Only yard trash and land clearing debris waste shall be accepted at the facility.

3. If solid waste other than yard trash or land clearing debris is left at the facility, it shall be separated and stored in a manner that prevents vector problems and shall be properly disposed within seven (7) days of its receipt.

4. Odors shall be controlled and minimized.

5. Dust shall be controlled and minimized.

6. Waste with a low carbon to nitrogen ratio, e.g., grass clippings, etc. shall be incorporated into piles within forty-eight (48) hours of on-site arrival.

7. Drainage Control Requirements:

a. Storm water shall be diverted from the operational area;

b. Windrows shall be constructed parallel to topographical slopes; and,

c. The site shall be graded to prevent ponding of water in the active composting areas.

8. Surface Water Protection Requirements: An NPDES permit may be required prior to discharge of any storm waters to surface waters.

9. Access and Security Requirements:

a. The site shall be secured by means of gates, chains, berms, fences, or other security measures, to prevent unauthorized entry; and,

b. An all-weather road to the site shall be maintained in good condition;

10. Sign Requirements:

a. Signs shall be posted in conspicuous places which identify the owner, operator, or a contact person and telephone number in case of emergency, and the hours during which the site is open for public use;

b. Traffic signs or markers shall be provided as necessary to promote an orderly traffic pattern to and from the discharge area and to maintain efficient operating conditions; and,

c. Signs shall be posted stating that only yard trash and land-clearing debris can be accepted at the site (except in the event that the site is permitted by the Department for solid waste disposal in addition to being permitted for yard trash and land-clearing debris composting).

11. Safety Requirements:

a. Open burning of solid waste at the composting facility shall be prohibited;

b. Equipment shall be provided to control accidental fires and/or arrangements shall be made with the local fire protection agency to immediately provide fire-fighting services when needed; and,

c. Space shall be provided between piles to allow access for vehicles, including fire equipment.

12. Monitoring and Reporting Requirements:

a. Should the Department confirm environmental and/or health problems associated with the facility, monitoring (including groundwater, surface water, waste components, soil, and/or plant tissue analyses) may be required by the Department to ensure protection of the environment; and,

b. An annual report shall be submitted to the Department and to the respective county or region in which the facility is located by October 15th, which includes the following information:

(1) Sources, type, and an estimate of the total quantity of waste received at the facility for the previous year;

(2) The amount of compost produced;

(3) The amount of compost removed from the facility;

(4) The amount of compost disposed in a landfill; and,

(5) Any changes in names of responsible parties, addresses, telephone numbers, etc., if applicable.

G. Closure and Post-closure Procedures.

1. Financial Assurance. All composting and wood chipping facilities shall fund a financial assurance mechanism for completing final closure prior to accepting yard waste. A final closure cost estimate, based on third party costs to complete closure by disposing of the maximum quantity of material at a facility shall be performed annually and adjusted annually, if necessary. The financial responsibility requirements shall not apply to any local government or region comprised of local governments which owns and operates a municipal solid waste management facility unless and until such time as federal regulations require such local governments and regions to demonstrate financial responsibility for such facilities; and,

2. Closure Procedures. All composting and wood chipping facilities shall be required to close the facility in accordance with the following procedures:

a. At least sixty (60) days prior to closure, provide written notice of intent to close and a proposed closure date to the Department;

b. Upon closing, immediately post closure signs at the facility;

c. Complete removal of compost material and cleaning of the waste handling areas within ten (10) days of closure and request Department inspection and approval of closure; and,

d. Within sixty (60) days of closure, grade land to promote positive drainage and seed with native grasses to prevent erosion.

R. 61-107.5. Solid Waste Management: Collection, Temporary Storage and Transportation of Municipal Solid Waste.

A. Applicability.

1. This regulation is to establish minimum standards for the collection, temporary storage, and transportation of solid waste prior to processing, disposal, etc. of that waste. This regulation applies to any person who collects, temporarily stores, and/or transports municipal solid waste. Recovered materials are not subject to the requirements of this regulation.

2. Facilities collecting, temporarily storing, and transporting industrial solid waste generated solely in the course of normal operations on property under the same ownership or control as the facility are exempt from the requirements of this regulation.

B. Definitions.

1. "Collection" means the act of picking up solid waste materials from homes, businesses,

governmental agencies, institutions, or industrial sites.

2. "Department" means the South Carolina Department of Health and Environmental Control.
3. "Discharge" means the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying, or dumping of solid waste, including leachate, into or on any land or water.
4. "Flood plain" means the lowland and relatively flat areas adjoining inland and coastal areas of the mainland and off-shore islands including, at a minimum, areas subject to a one percent or greater chance of flooding in any given year.
5. "Industrial solid waste" means solid waste generated by manufacturing or industrial processes that is not a hazardous waste regulated under subtitle C of RCRA. Such waste may include, but is not limited to, waste resulting from the following manufacturing processes: Electric power generation; fertilizer/agricultural chemicals; food and related products/by-products; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment. This term does not include mining waste or oil and gas waste.
6. "Leachate" means the liquid that has percolated through or drained from solid waste or other man-emplaced materials and that contains soluble, partially soluble, or miscible components removed from such waste.
7. "Municipal solid waste" means any solid waste (including garbage, trash, and sanitary waste in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas), generated by commercial establishments (stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding industrial facilities) and nonhazardous sludge.
8. "Nonputrescible" means solid waste that contains no putrescible waste.
9. "Person" means an individual, corporation, company, association, partnership, unit of local government, state agency, federal agency, or other legal entity.
10. "Putrescible" means solid waste composed of items, such as foods, that will decompose and rot to produce a foul smelling odor.
11. "Recovered materials" means those materials which have known use, reuse, or recycling potential; can be feasibly used, reused, or recycled; and have been diverted or removed from the solid waste stream for sale, use, reuse, or recycling, whether or not requiring subsequent separation and processing, but does not include materials when recycled or transferred to a different site for recycling in an amount which does not equal at least seventy-five percent by weight of materials received during the previous calendar year.
12. "Solid waste" means any garbage, refuse, or sludge from a waste treatment facility, water supply plant, or air pollution control facility and other discarded material, including solid, liquid, semi-solid,

or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations and from community activities. This term does not include solid or dissolved material in domestic sewage, recovered materials, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to NPDES permits under the Federal Water Pollution Control Act, as amended, or the Pollution Control Act of South Carolina, as amended, or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1964, as amended. Also excluded from this definition are application of fertilizer and animal manure during normal agricultural operations or refuse as defined and regulated pursuant to the South Carolina Mining Act, including processed mineral waste, which will not have a significant adverse impact on the environment.

13. "Solid waste storage container" as defined by this Regulation means large receptacles, e.g., green boxes, dumpsters, rolloff containers, which are used as a central collection point for the temporary storage of solid waste. This definition does not apply to storage containers used by a single family unit or to litter receptacles which are regulated under Code Section 16-11-700. Any solid waste storage container used at a food service facility, e.g. restaurants, etc., regardless of size, is subject to the requirements of this regulation.

14. "Temporary storage" as defined by this Regulation means the containment of solid waste for a period of not more than seven (7) days prior to the ultimate disposal of the waste, e.g., green boxes are used for temporary storage of solid waste.

15. "Vector" means a carrier that is capable of transmitting a pathogen from one organism to another including, but not limited to, flies and other insects, rodents, birds, and vermin.

16. "Vehicle" means any motor vehicle, water vessel, railroad car, airplane, or other means of transporting solid waste.

17. "Waters of the State" means lakes, bays, sounds, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic Ocean within the territorial limits, and all other bodies of surface or underground water, natural or artificial, public or private, inland or coastal, fresh or salt, which are wholly or partially within or bordering the State or within its jurisdiction.

C. General Provisions.

1. The collection, temporary storage and transporting of municipal solid waste shall be conducted in a manner to:

- a. Inhibit the harborage of flies, rodents, and other vectors;
 - b. Prevent conditions for transmission of diseases to man or animals;
 - c. Prevent blowing debris and particulates so as not to be injurious to human health and the environment;
 - d. Prevent water pollution and prevent the escape of solid waste or leachate to waters of the State;
- and,

e. Minimize objectionable odors, dust, unsightliness, and aesthetically objectionable conditions, and prevent the accumulation of materials in an untidy and unsafe manner so as to become a fire and safety hazard.

2. The collection, temporary storage and transportation of solid waste shall comply with all other State and local laws, ordinances, rules, regulations, and orders.

3. When putrescible waste is mingled with other solid waste, the entire load of solid waste shall be considered putrescible waste.

D. Collection of Municipal Solid Waste.

1. Organized collection, e.g., drop-off centers, convenience centers, green boxes, curbside, etc., of putrescible solid waste shall be at a frequency which ensures the prevention of hazards and nuisances to health and the environment. Curbside collection of putrescible waste from residences shall be no less often than one (1) day per week. Collection from solid waste storage containers for putrescible waste from residences, food service facilities, e.g., restaurants, etc., shall be no less often than two (2) days per week unless an extension is requested and approved by the Department. If the potential for nuisances and/or hazards to health and/or the environment are detected, the Department may require more frequent collection. Collection of putrescible solid waste from food service facilities, e.g., restaurants, etc., may require daily collection to ensure the prevention of hazards and nuisances.

2. Organized collection of nonputrescible municipal solid waste shall be at a frequency which ensures the prevention of hazards and nuisances to health and the environment, but no less often than one (1) day per week unless an extension is requested and approved by the Department. This weekly collection requirement does not apply to construction and demolition debris.

3. Collectors shall ultimately dispose of solid waste at facilities and/or sites permitted or registered by the Department for processing or disposal of that waste stream.

E. Municipal Solid Waste Storage Containers.

1. Municipal solid waste storage containers shall be properly maintained to inhibit the harborage of vectors and to minimize objectionable odors.

2. Municipal solid waste storage containers shall be of construction which is readily cleanable with proper drainage to prevent pooling of water.

3. Areas around municipal solid waste storage containers shall be properly maintained to prevent hazards to health and the environment. Collectors shall be responsible for cleaning up refuse spilled during collection. Residents, businesses and industries shall be responsible for keeping the area clean.

4. Municipal solid waste storage containers shall not be closer than fifty (50) feet horizontal distance from the normal highwater mark of any waters of the State unless special provision is made which prevents wastes, or drainage therefrom, from entering waters of the State.

5. Whenever possible, municipal solid waste storage containers shall not be located in a 100-year flood

plain. Municipal solid waste storage containers located in a 100-year flood plain shall demonstrate that the container will not restrict the flow of the 100-year flood.

6. Municipal solid waste storage containers shall not be located within 100 feet of a ground water well.

F. Municipal solid Waste Collection and Transportation Vehicles.

1. All vehicles used to collect and/or transport municipal solid waste shall be constructed and maintained so as to prevent dropping, sifting, or blowing or other escapement of solid waste from the vehicle.

2. Precautions shall be taken to prevent spillage or leakage during transport from all vehicles used to collect and/or transport municipal solid wastes that produce leachate.

3. All vehicles used to collect and/or transport putrescible solid wastes shall be emptied on a daily basis, unless an exemption is requested and approved by the Department.

4. Collection and transportation vehicles or other devices used in transporting putrescible solid waste shall be cleaned and maintained as often as necessary to prevent odors, insects, rodents, or other nuisance conditions.

5. The disposal of the waste water from the routine cleaning of municipal solid waste collection and transportation vehicles, i.e., the areas of the vehicle that come into contact with solid waste, shall be approved by the Department's Bureau of Water Pollution Control and the appropriate sewer system, if applicable, prior to disposal. Vehicles used only for the collection of inert waste, yard trash and land clearing debris are exempt from this subsection.

G. Violations and Penalties.

A violation of this regulation or any permit, order, or standard subjects the person to the issuance of a Department order, or to civil enforcement action in accordance with Code Section 48-1-330, or 44-96-450.

Willful violation of this regulation or any permit, order, or standard subjects the person to the issuance of a Department order, or to criminal enforcement action in accordance with Code Section 48-1-320, or 44-96-450. A person to whom an order is issued may appeal it as a contested case pursuant to R.61-72 and the Administrative Procedures Act.

H. Severability.

Should any section, paragraph, sentence, clause or phrase of this regulation be declared unconstitutional or invalid for any reason, the remainder of this regulation shall not be affected thereby.

R. 61-107.6. Solid Waste Management: Solid Waste Processing Facilities.

A. Applicability.

1. This regulation establishes the procedures, documentation, and other requirements which must be met for the proper operation and management of all solid waste processing facilities, including the processing activities involving the unrecoverable solid waste at a Materials Recovery Facility. However, this regulation does not apply to Recovered Materials Processing Facilities.

2. Waste tire processing facilities and composting facilities shall comply with their respective regulations, unless otherwise specified by the Department.

3. Solid waste management facilities commonly referred to as "drop-off centers" or "convenience centers", designed for the receipt of solid waste, from personal, non-commercial vehicles, destined for delivery of such waste to another Solid Waste Management Facility (e.g. recycling, processing, treatment, disposal) will not be regulated as solid waste processing facilities.

4. Facilities processing solid waste generated in the course of normal operations on property under the same ownership or control as the solid waste processing facility are exempt from the requirements of this regulation.

B. Definitions.

1. "Applicant" means an individual, corporation, partnership, business association, or government entity that applies for the issuance, transfer, or modification of a permit under this regulation.

2. "Closure" means the discontinuance of operation by ceasing to accept, treat, store, or dispose of solid waste in a manner which minimizes the need for further maintenance and protects human health and the environment.

3. "Contingency plan" means a document acceptable to the Department setting out an organized, planned, and coordinated course of action to be followed at or by the facility in case of a fire, explosions, or other incident that could threaten human health and safety or the environment.

4. "Department" means the South Carolina Department of Health and Environmental Control.

5. "Disclosure statement" means a sworn statement or affirmation, the form and content of which shall be determined by the Department as required by Code Section 44-96-300.

6. "Financial responsibility mechanism" means a mechanism designed to demonstrate that sufficient funds will be available to meet specific environmental protection needs of solid waste management facilities. Available financial responsibility mechanisms include, but are not limited to, insurance, trust funds, surety bonds, letters of credit, personal bonds, certificates of deposit, financial tests, and corporate guarantees as determined by the Department by regulation.

7. "Flood plain" means the lowland and relatively flat areas adjoining inland and coastal areas of the mainland and off-shore islands including, at a minimum, areas subject to a one percent or greater chance of flooding in any given year.

8. "Industrial solid waste" means solid waste generated by manufacturing or industrial processes that is not a hazardous waste regulated under subtitle C of RCRA. Such waste may include, but is not limited to,

waste resulting from the following manufacturing processes: Electric power generation; fertilizer/agricultural chemicals; food and related products/by-products; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment. This term does not include mining waste or oil and gas waste.

9. "Leachate" means the liquid that has percolated through or drained from solid waste or other man-emplaced materials and that contains soluble, partially soluble, or miscible components removed from such waste.

10. "Materials recovery facility" means a solid waste management facility that provides for the extraction from solid waste of recoverable materials, materials suitable for use as a fuel or soil amendment, or any combination of such materials.

11. "Municipal solid waste" means any solid waste (including garbage, trash, and sanitary waste in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas), generated by commercial establishments (stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding industrial facilities) and nonhazardous sludge.

12. "Owner/Operator" means the person who owns the land on which a solid waste management facility is located or the person who is responsible for the overall operation of the facility, or both.

13. "Permit" means the process by which the Department can ensure cognizance of, as well as control over, the management of solid wastes.

14. "Person" means an individual, corporation, company, association, partnership, unit of local government, state agency, federal agency, or other legal entity.

15. "Recovered materials" means those materials which have known use, reuse, or recycling potential; can be feasibly used, reused, or recycled; and have been diverted or removed from the solid waste stream for sale, use, reuse, or recycling, whether or not requiring subsequent separation and processing, but does not include materials when recycled or transferred to a different site for recycling in an amount which does not equal at least seventy-five (75) percent by weight of materials received during the previous calendar year.

16. "Recovered materials processing facility" means a facility engaged solely in the recycling, storage, processing, and resale or reuse of recovered materials. The term does not include a solid waste handling facility; however, any solid waste generated by such facility is subject to all applicable laws and regulations relating to the solid waste.

17. "Solid waste" means any garbage, refuse, or sludge from a waste treatment facility, water supply plant, or air pollution control facility and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations and from community activities. This term does not include solid or dissolved material in domestic sewage, recovered materials, or solid or dissolved materials in irrigation return flows or industrial discharges which

are point sources subject to NPDES permits under the Federal Water Pollution Control Act, as amended, or the Pollution Control Act of South Carolina, as amended, or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1964, as amended. Also excluded from this definition are application of fertilizer and animal manure during normal agricultural operations or refuse as defined and regulated pursuant to the South Carolina Mining Act, including processed mineral waste, which will not have a significant adverse impact on the environment.

18. "Solid waste handling facility" means any facility engaged in the handling of solid waste.

19. "Solid waste management facility" means any solid waste disposal area, volume reduction plant, transfer station, or other facility, the purpose of which is the storage, collection, transportation, treatment, utilization, processing, recycling, or disposal, or any combination thereof, of solid waste. The term does not include a recovered materials processing facility or facilities which use or ship recovered materials, except that portion of the facilities which is managing solid waste.

20. "Solid waste processing facility" means a combination of structures, machinery, or devices utilized to reduce or alter the volume, chemical, or physical characteristics of solid waste through processes, such as baling or shredding, prior to delivery of such waste to a recycling or resource recovery facility or to a solid waste treatment, storage, or disposal facility and excludes collection vehicles.

21. "Surface water" means lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic Ocean within territorial limits, and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private.

22. "Vector" means a carrier that is capable of transmitting a pathogen from one organism to another including, but not limited to, flies and other insects, rodents, birds, and vermin.

C. General Provisions.

1. The siting, design, construction, operation, closure, and post-closure activities of new or expanding solid waste processing facilities shall conform to the standards set forth in this regulation. The Department may, on a case by case basis, allow variances to the siting, design, construction, operation, closure, and post-closure requirements found in this regulation, for wastes regulated under R.61-107.11 only.

2. Within six (6) months of the effective date of this regulation, all owners and/or operators of existing solid waste processing facilities shall submit, to the Department, as-built plans of the existing facility.

3. Within twelve (12) months of the effective date of this regulation, existing facilities which receive solid waste for processing shall be required to conform with these regulations, unless otherwise approved by the Department.

4. The Department shall require a disclosure statement from the permit applicant in accordance with Code Section 44-96-300. Local governments and regions comprised of local governments are exempt from this requirement. The Department may accept one (1) disclosure statement for multiple facility permit applicants.

5. A permit shall be required for each site or facility although the Department may include one (1) or

more different types of facilities in a single permit if the facilities are collocated on the same site.

6. Waste tire processing facilities and composting facilities shall comply with their respective regulations, unless otherwise specified by the Department.

7. The permittee of a solid waste processing facility shall notify the Department prior to transfer of ownership or operation of the facility during its operating life or during the post-closure care period. The Department will approve a reissuance of the permit to the new owner provided that the facility is in compliance and the new owner agrees in writing to assume responsibility in accordance with these regulations.

D. Permit Application Requirements and Design Criteria.

1. Prior to construction, modification, or operation of a solid waste processing facility a permit shall be obtained from the Department. The application shall be signed by an engineer duly licensed and registered under the laws of the State of South Carolina.

2. Any person wishing to obtain a permit from the Department to operate a solid waste processing facility, shall submit to the Department three (3) copies of the following documents:

a. A completed permit application, on a form provided by the Department;

b. An engineering report which shall include the following:

- (1) an overall description of the facility;
- (2) a description of the process and equipment to be used;
- (3) a description of the proposed service area;
- (4) a description of the types and quantities of waste to be processed;
- (5) a description of the existing site;
- (6) a description of the security measures, including but not limited to fences, gates, signs;

and,

- (7) the location of disposal or recycling facilities which will accept the processed waste;

c. Complete construction plans and specifications that at a minimum address the following:

- (1) loading and unloading areas;
- (2) access roads;
- (3) processing areas;

- (4) actual or calculated weight of all solid waste accepted at the facility;
 - (5) storage areas for incoming solid waste; and,
 - (6) a map showing the specific location, land use, and zoning within one-fourth (3) mile of the boundaries of the proposed facility;
- d. All tipping areas shall be located within an enclosed building or covered area and all waste shall be contained in the tipping area.
- e. A design report for the facility which shall provide the technical details and specifications necessary to support the design plans;
- f. A complete description of the personnel training program;
- g. An identification of possible air releases and groundwater and surface water discharges that may occur;

h. A waste control plan describing the manner in which waste from the processing activities will be managed. The plan shall, at a minimum, address the following:

(1) ensure that the facility processes only waste specifically authorized by the Department;

(2) provide a program to identify, control, separate out, record, and prevent waste not authorized by the Department to be processed at the facility from being accepted at the facility. The plan shall include a description of how these wastes will be handled and disposed if received at the facility and shall include provisions to notify the Department by inclusion in the annual monitoring report of the receipt and disposal of such wastes. No permit will be issued until a waste control plan has been approved by the Department; and,

(3) identify the facilities approved by the Department that will receive the processed waste and a certification that such facilities have adequate capacity to manage the processed waste;

i. A quality assurance and quality control report. The facility owner or operator shall institute a control program (including measures such as signs, monitoring, alternate collection programs, passage of local laws, etc.) to assure that only solid waste authorized by the Department is being processed at the facility;

j. A written contingency plan. This plan shall set forth operating procedures to be employed during periods of non-operation (e.g. equipment breakdown) which will require standby equipment, extension of operating hours, or diversion of solid waste to other facilities;

k. A narrative description of the general operating plan for the facility, including the origin, composition and weight or volume of solid waste that is to be processed at the facility, the process to be used at the facility, the daily operational methodology of the process, the loading rate, the proposed capacity of the facility and the expected life of the facility. The plan shall include a descriptive statement of any materials recycling or reclamation activities to be operated in conjunction with the facility on incoming solid waste. The plan shall describe how the facility will meet all applicable regulatory requirements;

l. An operation and maintenance manual describing how the facility shall be maintained and operated in accordance with the intended use of the facility. Equipment in use at the facility shall be maintained in good working order;

m. A detailed closure plan which shall identify the steps necessary to close the facility. The plan may be amended at any time during the active life of the facility with Department approval. The plan shall be amended whenever changes in operating plans or facility design affect the closure plan, or whenever there is a change in the expected year of closure;

n. A description and explanation of any restrictions the facility places on the materials it receives for processing; and,

o. A demonstration of financial responsibility. The owner or operator of each facility shall establish sufficient financial assurance to ensure satisfactory maintenance, closure, and post-closure of the facility;

or to carry out any corrective action which may be required as a condition of a permit. Consideration shall be given to mechanisms which would provide flexibility to the owner or operator in meeting its financial obligations. The owner or operator shall be allowed to use combined financial responsibility mechanisms for a single facility and shall be allowed to use combined financial responsibility mechanisms for multiple facilities, utilizing actuarially sound risk-spreading techniques. Local governments are exempt from this requirement until such time as federal regulations require local governments or regions to demonstrate financial responsibilities for such facilities and the Department promulgates regulations addressing this issue.

E. Location Requirements. Location requirements addressed in this section apply to all solid waste processing facilities, unless otherwise approved by the Department.

1. Solid waste processing facilities shall be adjacent to or have direct access to roads which are of all weather construction and capable of withstanding anticipated load limits.
2. Solid waste processing facilities located in 100-year floodplains shall demonstrate that the facility will not restrict the flow of the 100-year flood.
3. The active waste handling area of a solid waste processing facility shall not be located within two hundred (200) feet of any surface water, excluding drainage ditches and sedimentation ponds.
4. A solid waste processing facility shall not be located within any wetlands as delineated and defined specifically as wetlands according to the methodology accepted by the U. S. Army Corps of Engineers and the U. S. Environmental Protection Agency.
5. The active waste handling area of a solid waste processing facility, shall not extend closer than one hundred (100) feet to any drinking water well.
6. Locations shall allow for sufficient room to minimize traffic congestion and allow for safe operation.
7. No solid waste processing unit shall extend closer than one hundred (100) feet to any property line.
8. The active waste handling area of a solid waste processing facility, shall not extend closer than two hundred (200) feet to residences, schools, hospitals and recreational park areas.
9. Facilities shall adhere to all Federal, State, and local zoning, land use and other applicable local ordinances.

F. Operations Criteria.

A solid waste processing facility shall be designed and operated according to the minimum criteria listed in this section.

1. Access Controls. The operator shall restrict the presence of, and shall minimize the possibility of any unauthorized entry onto the facility site. A statement of the days and hours of operation shall be posted at the entrance of the facility and access, except for Department and/or emergency personnel, shall

be limited to those times when authorized personnel are on duty.

2. Reporting and Record Keeping Requirements. All facilities shall:

a. Notify the Department's District Director, in the district in which the facility is located, if an unscheduled total facility shutdown exceeds twenty-four (24) hours;

b. Prepare and submit to the Department an annual report in a form provided by or acceptable to the Department by October 15, for the previous fiscal year; and,

c. Maintain a copy of all required reports at the facility for a period not less than five (5) years, and make these reports available to Department personnel upon request.

3. Receipt and Handling of Solid Waste.

a. The facility is authorized to process only solid waste specified by Department permit. The weight and/or volume of all solid waste processed at the facility shall be recorded and incorporated into the annual report.

b. All delivered solid waste shall be processed and contained at a facility designed in a way to minimize the effects of weather, wind, and precipitation. External storage of putrescible solid waste is prohibited. No putrescible waste shall remain at the site at the end of each working day unless it is stored in a manner to promote vector control. Solid waste identified as nonputrescible recyclables or oversized, bulky, or untreatable solid waste may be temporarily stored outside, on the premises for a period not to exceed one (1) week unless an extension is requested and approved by the Department. Any solid waste that is stockpiled or remains in storage shall be maintained so as to not create a nuisance or a sanitary or environmental problem. Litter, odors, rats, insects, flies, mosquitos, and other vectors shall be prevented and controlled at the facility.

c. The tipping areas shall be constructed of low permeability materials (e.g. concrete, asphalt), provided with a water supply for cleaning purposes, and equipped with drains, pumps, or equivalent means to facilitate the removal of water for proper disposal.

d. The transfer structures, buildings, and ramps shall be constructed of materials that can be easily cleaned.

e. Leachate and washwater from a solid waste processing facility shall not be allowed to drain or discharge into waters of the State unless an effluent disposal permit (e.g. land application, or NPDES) is approved by the Department.

f. Solid waste processing facilities shall comply with all applicable Federal, State, and local air quality standards.

g. The processing facility shall arrange for delivery of any residual or other waste resulting from the processing to a disposal facility which is:

- (1) permitted by the Department if located in South Carolina; or,
- (2) permitted by the appropriate environmental regulatory agency if located in another state.

4. Process changes. The owner or operator shall receive approval from the Department in writing of all process changes before they are implemented. Process changes such as those made to increase the recovery of recyclable materials do not require approval. Permit modifications shall be required as deemed necessary by the Department.

5. Emergency preparedness. In addition to requirements set forth in the contingency plan, all processing facilities shall at a minimum:

- a. Provide adequate aisle space to allow for emergency equipment;
- b. Be equipped with the following:
 - (1) an internal communications system capable of providing immediate emergency instruction to facility personnel and an alarm system to notify facility personnel of an emergency condition;
 - (2) a device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, and State or local emergency response teams;
 - (3) portable fire extinguishers, fire control equipment and spill control equipment; and,
 - (4) water available at adequate volume and pressure to supply water hose streams, automatic sprinklers, or water spray systems;
- c. Test and maintain as necessary to assure its proper operation, all facility emergency equipment including, but not limited to, communications or alarm systems, fire protection equipment, spill control equipment, and personal safety equipment;
- d. Provide immediate access for all personnel involved in the facility operation to an internal alarm or emergency communication device; and,
- e. Provide for an emergency coordinator.

6. Guidelines for identifying items or materials that may not be accepted for processing. The guidelines shall ensure that the facility accepts and processes only waste specifically authorized by the Department to be processed at the facility.

7. Trained personnel shall be present at all times during the operation of the facility.

G. Monitoring and Reporting Requirements.

1. Should the Department confirm environmental and/or health problems associated with the facility, monitoring (including groundwater, surface water, and air quality monitoring and analyses, and product

quality testing and analysis) may be required by the Department, as appropriate, and based on a case by case evaluation to ensure protection of the environment.

2. An annual report shall be submitted to the Department, by October 15, which includes at a minimum, the following information:

- a. Sources, type, and total quantity in weight and/or volume of waste received at the facility for the previous year;
- b. A description of the method and quantity of the distribution and/or disposal of the end product;
- c. A description of the method and quantity of the distribution and/or disposal of unauthorized waste received at the facility;
- d. The county in which the solid waste originated, or if the waste originated outside South Carolina, the county and the state; and,
- e. The transporters of waste.

3. Records of all monitoring and reporting information shall be maintained for a minimum of at least five (5) years from the sample or measurement date, unless otherwise specified by the Department.

H. Closure and Post-Closure Procedures.

1. Financial Assurance. Facilities shall fund a financial responsibility mechanism acceptable to the Department to ensure the satisfactory closure and post-closure care prior to accepting waste. A final closure cost estimate, based on third party costs to complete closure by disposing of the maximum quantity of material at a facility shall be calculated annually and adjusted annually, if necessary. Local governments are exempt from this requirement until such time as federal regulations require such local governments or regions to demonstrate financial responsibility for such facilities and the Department promulgates regulations addressing this issue.

2. Closure and Post-Closure Care Procedures. Closure and post-closure procedures addressed in this section apply to all solid waste processing facilities.

- a. At least sixty (60) days prior to closure, provide written notice of intent to close and a proposed closure date to the Department. The final quantity of solid waste shall be received no less than thirty (30) days prior to closure date.
- b. Upon closing, the owner or operator shall immediately remove all solid waste and post signs at the facility which state that the facility is no longer in operation.
- c. Within thirty (30) days after receiving the final quantity of solid waste, the owner or operator shall remove all solid waste and shall remove or treat all waste residues, contaminated soils and equipment in accordance with the approved closure plan, and notify the Department upon completion.

d. After receiving notification that the facility closure is complete, the Department will conduct an inspection of the facility. If all procedures have been correctly completed, the Department will approve the closure in writing, at which time the Department permit shall be terminated.

e. If the owner or operator demonstrates that not all contaminated soils can be practicably removed or treated, to below applicable standards, as required in paragraph (b) of this section, then the owner or operator shall submit for Department approval, a post-closure care plan.

I. Personnel Training Requirements.

Solid waste processing facility personnel training programs shall, at a minimum:

1. [Reserved]
2. identify the positions which will require training and a knowledge of the procedures, equipment, and processes at the facility;
3. describe how facility personnel will be trained to perform their duties in a way that ensures the facility's compliance with the regulations, including the proper procedures that shall be followed in the processing and handling of solid waste not authorized by the Department to be received at the facility; and,
4. be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency and safety equipment, emergency procedures and emergency systems.

J. Corrective Action Requirements.

If at any time, the Department determines that the solid waste processing facility poses an actual or potential threat to human health or the environment, the owner or operator shall implement a corrective action program reviewed and approved by the Department.

K. Violations and Penalties.

A violation of this regulation or any permit, order, or standard subjects the person to the issuance of a Department order, or to civil enforcement action in accordance with Code Section 48-1-330, or 44-96-450.

Willful violation of this regulation or any permit, order, or standard subjects the person to the issuance of a Department order, or to criminal enforcement action in accordance with Code Section 48-1-320, or 44-96-450. A person to whom an order is issued may appeal it as a contested case in accordance with R.61-72 and the Administrative Procedures Act.

L. Permit Review.

A permit issued pursuant to this regulation shall be effective for the design and operational life of the facility, to be determined by the Department. At least once every five (5) years, the Department will review the environmental compliance history of each permitted solid waste processing facility.

1. If, upon review, the Department finds that material or substantial violations of the permit demonstrate the permittee's disregard for, or inability to comply with applicable laws, regulations, or requirements and would make continuation of the permit not in the best interests of human health and safety or the environment, the Department may, after a hearing, amend or revoke the permit, as appropriate and necessary. When a permit is reviewed, the Department shall include additional limitations, standards, or conditions when the technical limitations, standards, or regulations on which the original permit was based have been changed by statute or amended by regulation.

2. The Department may amend or attach conditions to a permit when:

- a. There is a significant change in the manner and scope of operation which may require new or additional permit conditions or safeguards to protect human health and safety and the environment;
- b. The investigation has shown the need for additional equipment, construction, procedures, and testing to ensure the protection of human health and safety and the environment; and,
- c. The amendment is necessary to meet changes in applicable regulatory requirements.

M. Severability.

Should any section, paragraph, sentence, clause or phrase of this regulation be declared unconstitutional or invalid for any reason, the remainder of this regulation shall not be affected thereby.

R. 61-107.7. Solid Waste Management: Transfer of Solid Waste.

A. Applicability.

1. This regulation is to establish minimum standards for facilities where solid waste is transferred from collection vehicles to other transportation units for movement to another solid waste management facility prior to its processing and disposal. In addition, this regulation is to ensure that no unpermitted discharges to the environment occur during the process of transferring solid waste.

2. Solid waste management facilities commonly referred to as "drop-off centers" or "convenience centers", designed for the receipt of solid waste from personal, non-commercial vehicles and destined for delivery to another Solid Waste Management Facility (e.g. recycling, processing, treatment, or ultimate disposal), will not be regulated as transfer stations. Facilities that handle only recovered materials are not subject to the requirements of this regulation.

3. Facilities transferring solid waste generated in the course of normal operations on property under the same ownership or control as the waste transfer facility are exempt from the requirements of this regulation.

B. Definitions.

1. "Closure" means the discontinuance of operation by ceasing to accept, treat, store, or dispose of solid waste in a manner which minimizes the need for further maintenance and protects human health and the environment.

2. "Collection" means the act of picking up solid waste materials from homes, businesses, governmental agencies, institutions, or industrial sites.

3. "Construction" means any physical modification to the site at which a potential or proposed solid waste management facility is to be located including, but not limited to, site preparation.

4. "Contingency plan" means a document acceptable to the Department setting out an organized, planned, and coordinated course of action to be followed at or by the facility in case of a fire, explosion, or other incident that could threaten human health and safety or the environment.

5. "Department" means the South Carolina Department of Health and Environmental Control.

6. "Discharge" means the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying, or dumping of solid waste, including leachate, into or on any land or water.

7. "Disclosure statement" means a sworn statement or affirmation, the form and content of which shall be determined by the Department as required by Code Section 44-96-300.

8. "Expansion" means the process of increasing existing capacity of operations at an existing site when such increase is in conformity with the area served and scope of operations of the original permit.

9. "Financial responsibility mechanism" means a mechanism designed to demonstrate that sufficient funds will be available to meet specific environmental protection needs of solid waste management facilities. Available financial responsibility mechanisms include, but are not limited to, insurance, trust funds, surety bonds, letters of credit, personal bonds, certificates of deposit, financial tests, and corporate guarantees as determined by the Department by regulation.

10. "Flood plain" means the lowland and relatively flat areas adjoining inland and coastal areas of the mainland and off-shore islands including, at a minimum, areas subject to a one percent or greater chance of flooding in any given year.

11. "Hazardous waste" has the meaning provided in Section 44-56-20 of the South Carolina Hazardous Waste Management Act.

12. "Infectious waste" has the meaning given in Section 44-93-20 of the South Carolina Infectious Waste Management Act.

13. "Leachate" means the liquid that has percolated through or drained from solid waste or other man-emplaced materials and that contains soluble, partially soluble, or miscible components removed from such waste.

14. "Owner/operator" means the person who owns the land on which a solid waste management

facility is located or the person who is responsible for the overall operation of the facility, or both.

15. "Permit" means the process by which the Department can ensure cognizance of, as well as control over, the management of solid wastes.

16. "Person" means an individual, corporation, company, association, partnership, unit of local government, state agency, federal agency, or other legal entity.

17. "Recovered materials" means those materials which have known use, reuse, or recycling potential; can be feasibly used, reused, or recycled; and have been diverted or removed from the solid waste stream for sale, use, reuse, or recycling, whether or not requiring subsequent separation and processing, but does not include materials when recycled or transferred to a different site for recycling in an amount which does not equal at least seventy-five percent by weight of materials received during the previous calendar year.

18. "Solid waste" means any garbage, refuse, or sludge from a waste treatment facility, water supply plant, or air pollution control facility and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations and from community activities. This term does not include solid or dissolved material in domestic sewage, recovered materials, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to NPDES permits under the Federal Water Pollution Control Act, as amended, or the Pollution Control Act of South Carolina, as amended, or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1964, as amended. Also excluded from this definition are application of fertilizer and animal manure during normal agricultural operations or refuse as defined and regulated pursuant to the South Carolina Mining Act, including processed mineral waste, which will not have a significant adverse impact on the environment.

19. "Solid waste management facility" means any solid waste disposal area, volume reduction plant, transfer station, or other facility, the purpose of which is the storage, collection, transportation, treatment, utilization, processing, recycling, or disposal, or any combination thereof, of solid waste. The term does not include a recovered materials processing facility or facilities which use or ship recovered materials, except that portion of the facilities which is managing solid waste.

20. "Surface water" means lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic Ocean within territorial limits, and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private.

21. "Transfer station" means a combination of structures, machinery, or devices at a place or facility where solid waste is taken from collection vehicles and placed in other transportation units, with or without reduction of volume, for movement to another solid waste management facility.

22. "Transport" means the movement of solid waste from the point of generation to any intermediate point and finally to the point of ultimate processing, treatment, storage, or disposal.

23. "Vector" means a carrier that is capable of transmitting a pathogen from one organism to another including, but not limited to, flies and other insects, rodents, birds, and vermin.

24. "Vehicle" means any motor vehicle, water vessel, railroad car, airplane, or other means of transporting solid waste.

C. General Provisions.

1. The site, design, construction, and operation of all solid waste transfer stations shall conform to the standards as set forth in this regulation.

2. Any spillage or leakage of solid waste at a transfer station shall be contained on the storage site and unpermitted discharges to the environment shall be prohibited.

3. Sludges shall not be accepted at transfer stations and shall be transported directly to the disposal facility, disposal site or processing operation.

4. No person owning or operating a transfer station shall cause, suffer, allow, or permit the handling of regulated hazardous wastes or regulated infectious wastes at the transfer station.

5. Within six (6) months of the effective date of this regulation, all owners and/or operators of existing transfer stations shall submit to the Department as-built plans and specifications of the existing facility in accordance with Section D below.

6. Within twelve (12) months of the effective date of this regulation, existing facilities which transfer solid waste shall conform to the standards as set forth in this regulation unless otherwise approved by the Department.

7. If at any time, the Department determines that the solid waste transfer station poses an actual or potential threat to human health or the environment, the owner or operator shall implement a corrective action program. This program shall be approved by the Department prior to implementation.

8. The permittee of a solid waste transfer station shall notify the Department prior to transfer of ownership or operation of the facility during its operating life or during the post-closure care period. The Department will approve a reissuance of the permit to the new owner provided that the facility is in compliance and the new owner agrees in writing to assume responsibility in accordance with these regulations.

D. Permit and Application Requirements.

1. Prior to the construction, operation, expansion or modification of a solid waste transfer station, a permit shall be obtained from the Department.

2. Any person wishing to obtain a permit from the Department for the construction and/or operation of a solid waste transfer station shall submit three (3) copies of the following documents:

- a. A completed permit application on a form provided by the Department;

- b. A site plan. This plan shall include the following:
 - (1) Site conditions and projected use including all site structures, buildings, fences, gates, entrances and exits, parking areas, on-site roadways, and signs;
 - (2) Property boundaries, access roads, surface water bodies, wetlands as delineated and defined specifically as wetlands according to the methodology accepted by the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency, and the location of 100-year flood plain boundaries; and,
 - (3) Adjacent properties including the location of public and private water supplies on these properties;
- c. A transportation plan specifying the number and type of transportation vehicles to be used, and how often solid waste will be transported to the disposal site or sites;
- d. A plan for training equipment operators and other personnel concerning the operation of the facility;
- e. A contingency plan describing alternate solid waste handling procedures for inoperable periods or delays in transporting solid waste;
- f. A detailed closure plan which identifies the steps necessary to close the facility. The plan may be amended at any time during the active life of the facility with Department approval. The plan shall be amended whenever changes in operating plans or facility design affect the closure plan, or whenever there is a change in the expected year of closure;
- g. A disclosure statement in accordance with the guidelines established by Code Section 44-96-300. The Department may accept one disclosure statement for multiple facility permit applicants. Local governments and regions comprised of local governments are exempt from submitting a disclosure statement; and,
- h. The following items prepared by a South Carolina licensed professional engineer:
 - (1) Complete construction plans and specifications;
 - (2) Design calculations;
 - (3) A preliminary engineering report to include, but not be limited to, the following:
 - (a) An outline of proposed structures and areas designated for unloading and loading and the general process flow;
 - (b) A description of the general operating plan for the proposed facility including the origin, composition, and expected weight or volume of all solid waste to be accepted at the facility per day; the maximum time waste will be stored; where all wastes will be disposed; the capacity of the facility; the operating hours of the facility; how nonputrescible, recyclable waste will be handled; and, the expected life

of the facility;

(c) A description of all machinery and equipment to be used, including the design capacity;

(d) A description of the facility's drainage system and water supply system; and,

(4) Upon completion of construction of the facility, certification that the facility was constructed in accordance with approved plans and specification.

3. The plans and specifications for a transfer station shall be in compliance with the design criteria as set forth in this regulation.

4. Prior to the issuance of a Department construction permit, a financial responsibility mechanism shall be submitted to the Department. The owner or operator of each facility shall establish sufficient financial assurance to ensure satisfactory maintenance, closure, and post-closure of the facility; or to carry out any corrective action which may be required as a condition of a permit. Consideration shall be given to mechanisms which would provide flexibility to the owner or operator in meeting its financial obligations. The owner or operator shall be allowed to use combined financial responsibility mechanisms for a single facility and shall be allowed to use combined financial responsibility mechanisms for multiple facilities, utilizing actuarially sound risk-spreading techniques. Local governments are exempt from this requirement until such time as federal regulations require local governments or regions to demonstrate financial responsibilities for such facilities and the Department promulgates regulations addressing this issue.

E. Design Criteria for Solid Waste Transfer Facilities.

The following criteria are required at all solid waste transfer facilities unless otherwise approved by the Department:

1. The active waste handling area of a transfer station shall not be located within one hundred (100) feet of any property line;

2. The active waste handling area of a transfer station shall not be located within two hundred (200) feet of any surface water excluding drainage ditches and sedimentation ponds;

3. The active waste handling area of a transfer station shall not be located within two hundred (200) feet of any residence, school, hospital or recreational park area;

4. The active waste handling area of a transfer station shall not be located within one hundred (100) feet of a drinking water well;

5. A transfer station shall not be located within any wetlands as delineated and defined specifically as wetlands according to the methodology accepted by the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency;

6. Facilities shall adhere to all State, Federal, and local zoning, land use, and other applicable local ordinances;

7. On-site roads and unloading areas shall be adequate in size and design to facilitate efficient unloading and loading of the collection and transportation vehicles and the unobstructed movement of vehicles;

8. The unloading, storage and loading surface areas shall be constructed of low permeability materials, e.g., asphalt, concrete, etc.; provided with a water supply for cleaning purposes; and, equipped with drains or pumps, or equivalent means to facilitate the removal of water for proper disposal;

9. Solid waste passing through a transfer station and intended for disposal in this State, shall be transferred only to a facility permitted or registered by the Department to receive that waste;

10. Tipping areas shall be located within an enclosed building or covered area and all waste shall be contained in the tipping area;

11. Exhaust removal systems shall be installed in enclosed areas and operated to provide adequate ventilation;

12. Access to the site shall be controlled through the use of fences, gates, berms, natural barriers, or other means approved by the Department;

13. At least one (1) sign shall be posted at each access point to the facility with the hours of operation and the types of solid waste accepted at the transfer station;

14. Whenever possible, solid waste transfer stations shall not be constructed in a 100-year flood plain. When a transfer station is located in a 100-year flood plain, the owner shall demonstrate that the facility will not restrict the flow of the 100-year flood; and,

15. Arrangements shall be made with a local fire department to provide fire fighting services, or fire fighting equipment shall be maintained on-site.

F. Operation Criteria.

The following operational requirements shall apply to all facilities that transfer solid waste:

1. Procedures for preventing unauthorized receipt of prohibited wastes shall be addressed in the contingency plan;

2. The transfer station shall maintain a neat and orderly appearance. The facility and the interior of the transportation vehicles where the waste is held shall be cleaned as often as necessary so as to control litter, odors, rats, insects and other vectors;

3. All floors shall be free from standing water. All drainage areas shall be discharged to a sanitary sewer or other management method acceptable to the Department;

4. A transfer station with permanent operating mechanical equipment shall have an attendant on duty

at all times the facility is open;

5. Solid wastes identified as nonputrescible recyclables or oversized, bulky, or untreatable solid waste may be temporarily stored outside on the premises for a period not to exceed one (1) week, unless an exemption is requested and approved by the Department in the facility's general operation plan, and if it does not create a nuisance or a sanitary or environmental problem;

6. Adequate fire protection equipment shall be available at all times or arrangements made with a local fire department; and,

7. All putrescible wastes shall be removed for proper disposal within twenty four (24) hours of receipt unless an exemption is requested and approved by the Department in the facility's general operating plan. All solid wastes that are not transferred within twenty four (24) hours shall be stored in a manner to promote vector and odor control.

G. Monitoring and Record Keeping Requirements.

1. Should the Department confirm environmental and/or health problems associated with any solid waste transfer facility, monitoring (including groundwater, surface water, and air quality monitoring) may be required by the Department, as appropriate, and based on a case by case evaluation to ensure protection of the environment.

2. Transfer stations regardless of ownership shall maintain records of the amount of all solid waste accepted at the facility each day and where all wastes were disposed. This information may be maintained in a summary format. These records shall be maintained for no less than five (5) years and shall be made available to the Department upon request.

H. Closure and Post-Closure Procedures.

The following closure and post-closure procedures apply to all solid waste transfer stations:

1. At least sixty (60) days prior to closure, the owner or operator shall provide written notice of intent to close and a proposed closure date to the Department;

2. Upon closing, the owner or operator shall immediately post signs at the facility which state that the facility is no longer in operation and remove all solid waste from the facility;

3. Within thirty (30) days of closure, the owner or operator shall either remove or treat all waste residues, contaminated soils and equipment in accordance with the approved closure plan, and notify the Department upon completion;

4. After receiving notification that the facility closure is complete, the Department will conduct an inspection of the facility. If all procedures have been correctly completed, the Department will approve the closure in writing, at which time the Department permit shall be terminated; and,

5. If the owner or operator demonstrates that not all contaminated soils can be practicably removed or

treated as required in paragraph 3. of this section, then the owner or operator shall submit for Department approval, a post-closure care plan.

I. Violations and Penalties.

A violation of this regulation or any permit, order, or standard subjects the person to the issuance of a Department order, or to civil enforcement action in accordance with Code Section 48-1-330, or 44-96-450.

Willful violation of this regulation or any permit, order, or standard subjects the person to the issuance of a Department order, or to criminal enforcement action in accordance with Code Section 48-1-320, or 44-96-450. A person to whom an order is issued may appeal it as a contested case pursuant to R.61-72 and the Administrative Procedures Act.

J. Permit Review.

Permits for solid waste transfer stations shall be effective for the design and operational life of the facility, to be determined by the Department. The Department shall review the permit for each solid waste transfer station at least once every five (5) years, unless otherwise specified by the Department.

1. If, upon review, the Department finds that material or substantial violations of the permit demonstrate the permittee's disregard for, or inability to comply with applicable laws, regulations, or requirements and would make continuation of the permit not in the best interests of human health and safety or the environment, the Department may, after a hearing, amend or revoke the permit, as appropriate and necessary. When a permit is reviewed, the Department shall include additional limitations, standards, or conditions when the technical limitations, standards, or regulations on which the original permit was based have been changed by statute or amended by regulation.

2. The Department may amend or attach conditions to a permit when:

- a. There is a significant change in the manner and scope of operation which may require new or additional permit conditions or safeguards to protect human health and safety and the environment;
- b. The investigation has shown the need for additional equipment, construction, procedures, and testing to ensure the protection of human health and safety and the environment; and,
- c. The amendment is necessary to meet changes in applicable regulatory requirements.

K. Severability.

Should any section, paragraph, sentence, clause or phrase of this regulation be declared unconstitutional or invalid for any reason, the remainder of this regulation shall not be affected thereby.

R. 61-107.8. Solid Waste Management: Lead-Acid Batteries.

A. Applicability. This regulation applies to the proper disposal, collection, and recycling of lead-acid batteries and small sealed lead-acid batteries.

B. Definitions.

1. "Collection" means the act of picking up solid waste materials from homes, businesses, governmental agencies, institutions, or industrial sites.
2. "Department" means the South Carolina Department of Health and Environmental Control.
3. "Lead-acid battery" means any battery that consists of lead and sulfuric acid, is used as a power source, and has a capacity of six (6) volts or more, except that this term shall not include a small sealed lead-acid battery.
4. "Small sealed lead-acid battery" means any lead-acid battery weighing twenty-five (25) pounds or less, used in non-vehicular, non-SLI (start lighting ignition) applications.
5. "Lead-acid battery collection facility" means a facility authorized by the Department of Health and Environmental Control to accept lead-acid batteries from the public for temporary storage prior to recycling.
6. "Small sealed lead-acid battery collection facility" means a facility authorized by the Department of Health and Environmental Control to accept small sealed lead-acid batteries from the public for temporary storage prior to recycling.
7. "Person" means an individual, corporation, company, association, partnership, unit of local government, state agency, federal agency, or other legal entity.
8. "Recovered Materials Processing Facility" means a facility engaged solely in the recycling, storage, processing, and resale or reuse of recovered materials. The term does not include a solid waste handling facility; however, any solid waste generated by such facility is subject to all applicable laws and regulations relating to the solid waste.
9. "Secondary lead smelter" means a facility which produces metallic lead from various forms of lead scrap, including used lead-acid batteries.
10. "Used lead-acid battery" means a battery which is of no use in its present state. This includes batteries which are regulated by R.61-79.266 Subpart G, Spent Lead-Acid Batteries Being Reclaimed.
11. "Used small sealed lead-acid battery" means any battery fitting the definition of a small sealed lead-acid battery and which is of no use in its present state.

C. General Provisions for Lead-Acid Batteries.

1. No person shall knowingly place a used lead-acid battery in mixed municipal solid waste, discard or otherwise dispose of a lead-acid battery, except by delivery to:

- a. a lead-acid battery retailer or wholesaler;
 - b. a collection, recycling, or recovered material processing facility that is registered by the Department to accept lead-acid batteries; or,
 - c. a permitted secondary lead smelter.
2. No battery retailer shall knowingly dispose of a used lead-acid battery except by delivery to:
- a. the agent of a lead-acid battery wholesaler or the agent of a permitted secondary lead smelter;
 - b. a vehicle battery manufacturer for delivery to a permitted secondary lead smelter;
 - c. a collection, recycling, or recovered material processing facility that is registered by the Department to accept lead-acid batteries; or,
 - d. a permitted secondary lead smelter.
3. A person selling lead-acid batteries or offering lead-acid batteries for retail sale in this State shall:
- a. accept, at the point of transfer, lead-acid batteries from customers; and,
 - b. post written notice, either issued by or approved by the Department, at his place of business which must be at least eight and one-half inches by eleven inches (8 1/2 x 11) in size and must contain the state recycling symbol and the following language:
 - (1) "It is illegal to put a motor vehicle battery in the garbage."
 - (2) "Recycle your used batteries."
 - (3) "State law requires us to accept motor vehicle batteries for recycling."
4. Any person selling lead-acid batteries at wholesale or offering lead-acid batteries for sale at wholesale shall accept, at the point of transfer, lead-acid batteries from customers.
5. The lead-acid battery retailer shall charge a five dollar (\$5.00) refundable deposit for each battery sold for which a core is not returned to the retailer. The deposit shall be returned to the consumer if a core is returned to the same retailer within thirty (30) days.
6. The operation of a lead-acid battery collection, recycling or recovered material processing facility shall be in a manner to protect public health, safety and the environment. Leaking lead-acid batteries shall be stored in heavy duty plastic bags or other suitable containers capable of preventing discharge of acid.

D. General Provisions for Small Sealed Lead-Acid Batteries.

- 1. No person shall knowingly place a used small sealed lead-acid battery in mixed municipal solid

waste, discard, incinerate or otherwise dispose of a small sealed lead-acid battery, except by delivery to:

- a. a small sealed lead-acid battery retailer or wholesaler,
- b. a collection, recycling, or recovered material processing facility that is registered by the Department to accept small sealed lead-acid batteries; or,
- c. a permitted secondary lead smelter.

2. No battery retailer shall knowingly dispose of a used small sealed lead-acid battery except by delivery to:

- a. the agent of a lead-acid battery wholesaler or the agent of a permitted secondary lead smelter;
- b. a small sealed lead-acid battery manufacturing facility for delivery to a permitted secondary lead smelter;
- c. a small sealed lead-acid battery importer for delivery to a permitted secondary lead smelter;
- d. a facility designated by a small sealed lead-acid battery manufacturer or importer to accept small sealed lead-acid batteries for delivery to a secondary lead smelter;
- e. a collection, recycling, or recovered material processing facility that is registered by the Department to accept small sealed lead-acid batteries; or,
- f. a permitted secondary lead smelter.

3. The operation of a small sealed lead-acid battery collection, recycling or recovered material processing facility shall be in a manner to protect public health, safety and the environment. Damaged small sealed lead-acid batteries shall be stored in heavy-duty plastic bags or other suitable containers capable of preventing discharge of acid.

4. A person selling small sealed lead-acid batteries or offering small sealed lead-acid batteries for retail sale in this State shall post written notice, either issued by or approved by the Department, at his place of business which must be at least eight and one-half inches by eleven inches (8 1/2 x 11) in size and must contain the state recycling symbol and the following language:

- (1) "It is illegal to put a small sealed lead-acid battery in the garbage."
- (2) "Recycle your used small sealed lead-acid batteries."

E. Registration Requirements.

1. Collection, recycling, and recovered material processing facilities shall register with the Department to accept lead-acid batteries and/or small sealed lead-acid batteries. Registrations shall be renewed no later than March 1, of each calendar year. This requirement does not apply to persons selling lead-acid

batteries and/or small sealed lead-acid batteries or offering lead-acid batteries and/or small sealed lead-acid batteries for retail sale or wholesale, who accept lead-acid batteries and/or small sealed lead-acid batteries, at the point of transfer, only from customers.

2. Within 60 days of the effective date of this regulation, the owner and/or operator of all collection, recycling, and recovered material processing facilities accepting lead-acid batteries and/or small sealed lead-acid batteries, shall register with the Department. To be registered, the owner and/or operator shall submit to the Department, the name and location of the facility and the name, address and telephone number of the owner and/or operator of the facility.

3. Collection, recycling, and recovered material processing facilities not accepting lead-acid batteries and/or small sealed lead-acid batteries prior to the effective date of this regulation, shall register with the Department prior to accepting lead-acid batteries and/or small sealed lead-acid batteries. To be registered, the owner and/or operator shall submit to the Department, the name and location of the facility and the name, address and telephone number of the owner and/or operator of the facility.

F. Violations and Penalties.

Any person violating the provisions of Sections C. 1. and 2., shall be subject to a fine not to exceed two hundred dollars (\$200.00). Each lead-acid battery improperly disposed shall constitute a separate violation.

G. Severability.

Should any section, paragraph, sentence, clause or phrase of this regulation be declared unconstitutional or invalid for any reason, the remainder of this regulation shall not be affected thereby.

R. 61-107.9. Solid Waste Management: White Goods.

A. Applicability. This regulation applies to the proper management and recycling or disposal of inoperative or discarded white goods.

B. Definitions.

1. "Department" means the South Carolina Department of Health and Environmental Control.
2. "Person" means an individual, corporation, company, association, partnership, unit of local government, state agency, federal agency, or other legal entity.
3. "White goods" include refrigerators, ranges, water heaters, freezers, dishwashers, trash compactors, washers, dryers, air conditioners, and commercial large appliances.

C. General Provisions.

1. Effective May 27, 1994, no person shall knowingly include white goods with other municipal solid waste that is intended for collection or disposal at a municipal solid waste landfill.

2. Effective May 27, 1994, no owner or operator of a municipal solid waste landfill shall knowingly accept white goods for disposal at such landfill. An owner or operator of a municipal solid waste landfill may accept white goods for temporary storage prior to shipment of such white goods to a recycling facility.

3. Prior to the recycling or disposal of white goods:

a. all ozone depleting compounds (e.g. chlorofluorocarbons) used as refrigerants shall be recovered in accordance with applicable Federal, State and local regulations.

b. all electrical components shall be removed and disposed in a manner consistent with Federal, State and local regulations.

4. White goods shall be stored in a manner to protect human health, safety and the environment and in accordance with Federal, State and local regulations.

D. Retailer Requirements.

All persons selling or offering white goods for sale at retail in South Carolina shall post written notice, at their place of business, notifying all customers that white goods may not be disposed by landfilling after May 27, 1994. The notice, either issued by or approved by the Department, shall be at least eight and one-half inches by eleven inches (8½ x 11) in size.

E. Violations and Penalties.

Any person violating the provisions of Sections C. 1. and 2., shall be subject to a fine not to exceed two hundred dollars (\$200.00). Each white good improperly disposed shall constitute a separate violation.

F. Severability.

Should any section, paragraph, sentence, clause or phrase of this regulation be declared unconstitutional or invalid for any reason, the remainder of this regulation shall not be affected thereby.

R. 61-107.10. Solid Waste Management: Research, Development, and Demonstration Permit Criteria.

A. Applicability. This regulation applies to solid waste management facilities, or parts of these facilities, proposing to utilize an innovative and experimental solid waste management technology or process.

B. Definitions.

1. "Department" means the South Carolina Department of Health and Environmental Control.

2. "Disclosure statement" means a sworn statement or affirmation, the form and content of which shall be determined by the Department and as required by Section 44-96-300.

3. "Permit" means the process by which the Department can ensure cognizance of, as well as control over, the management of solid wastes.

4. "Person" means an individual, corporation, company, association, partnership, unit of local government, state agency, federal agency, or other legal entity.

5. "Solid waste management" means the systematic control of the generation, collection, source separation, storage, transportation, treatment, recovery, and disposal of solid waste.

6. "Solid waste management facility" means any solid waste disposal area, volume reduction plant, transfer station, or other facility, the purpose of which is the storage, collection, transportation, treatment, utilization, processing, recycling, or disposal, or any combination thereof, of solid waste. The term does not include a recovered materials processing facility or facilities which use or ship recovered materials, except that portion of the facilities which is managing solid waste.

C. General Provisions.

1. The Department may issue a research, development and demonstration permit for any solid waste management facility, or a part of the facility, which proposes to utilize an innovative and experimental solid waste technology or process for which permit standards for such activity have not been promulgated. Permits issued shall include such terms and conditions necessary to assure protection of human health, safety, and the environment and shall be for a period not to exceed two (2) years.

2. Nothing in this regulation creates exceptions to or authorizes the Department to grant variances from Federal and State laws and regulations and the Solid Waste Policy and Management Act.

3. The Department permit shall ensure the owner or operator provides for the receipt, storage, and disposal of only those types and quantities of solid waste that the Department deems necessary for purposes of determining the efficiency and performance capabilities of the technology or process and the effects of such technology or process on human health, safety and the environment.

4. The Department shall request a disclosure statement from the permit applicant in accordance with the guidelines established by Code Section 44-96-300. Local governments and regions comprised of local governments are exempt from this requirement.

D. Permit Requirements.

1. Prior to construction, modification, or operation of a solid waste research, development and demonstration facility, a permit shall be obtained from the Department. The application shall be signed by an engineer duly licensed and registered under the laws of the State of South Carolina.

2. Any person wishing to obtain a permit from the Department for a solid waste research, development and demonstration facility, shall submit to the Department three (3) copies of the following

documents:

- a. A completed permit application, on a form provided by the Department;
 - b. A detailed description of the proposed activity;
 - c. A description of the manner in which the permit applicant intends to provide for the management of solid waste in order to determine:
 - (1) the efficiency and performance capabilities of the technology or process;
 - (2) the effects of such technology or process on human health, safety and the environment;
 and,
 - (3) how the permit applicant intends to protect human health, safety and the environment in the conduct of the project;
 - d. A plan for assessing the effectiveness and environmental effect of the proposed facility;
 - e. A complete operational plan, including design details and a timetable for completing various phases of the facility from initiation of construction to completion of the project;
 - f. A demonstration of financial responsibility by the permit applicant through submission of proof of liability insurance or other form of financial surety deemed sufficient by the Department to meet the following: all responsibilities for closure of the research, development and demonstration facility; and/or all responsibilities in the case of a release of solid waste causing bodily injury or property damage to any third party, including contamination of groundwater and liability for environmental restoration resulting from negligence in operation. The owner or operator shall provide continuous coverage for closure or clean-up until released from financial responsibility requirements by certifying that closure or clean-up of the facility is complete.
 - g. A plan for corrective action utilizing conventional technology in the event of environmental, safety and/or health hazards.
3. If the Department deems necessary, additional requirements may be imposed to ensure protection to human health, safety, and the environment including, but not limited to:
- a. monitoring;
 - b. operation;
 - c. financial responsibility;
 - d. closure;
 - e. corrective action; and,

f. reporting.

E. Location Requirements.

Location requirements addressed in this section apply to all solid waste research, development, and demonstration facilities, unless otherwise approved by the Department.

1. Facilities shall be adjacent to or have direct access to roads which are of all weather construction and capable of withstanding anticipated load limits.
2. Facilities located in 100-year floodplains shall demonstrate that the facility will not restrict the flow of the 100-year flood.
3. The active waste handling area shall not be located within two hundred (200) feet of any surface water, excluding drainage ditches and sedimentation ponds.
4. Facilities shall not be located within any wetlands as delineated and defined specifically as wetlands according to the methodology accepted by the U. S. Army Corps of Engineers and the U. S. Environmental Protection Agency.
5. The active waste handling area shall not extend closer than one hundred (100) feet to any drinking water well.
6. Locations shall allow for sufficient room to minimize traffic congestion and allow for safe operation.
7. The active waste handling area shall not extend closer than two hundred (200) feet to residences, schools, hospitals and recreational park areas.
8. The active waste handling area shall not extend closer than one hundred (100) feet to all property lines.
9. Facilities shall adhere to all Federal, State, and local zoning, land use and other applicable local ordinances.

F. Design and Operation Requirements.

A research, development, and demonstration facility shall be designed and operated according to the minimum criteria listed in this section.

1. The facility shall not be larger than the area needed to adequately test the new or unique technology.
2. No waste shall be processed or disposed at the facility after two (2) years from the initial processing or disposal of waste at the facility, unless a different period is stated in the Department permit. Activities involving the management of solid waste at the facility prior to the issuance of the research,

development, and demonstration permit, may be continued provided a valid Department permit for such activities is in effect.

3. Quarterly reports shall be prepared and submitted to the Department concerning the effectiveness and environmental effect of the facility.

4. If during the life of the permit, the Department determines that the facility is causing or is likely to cause harm to public health, safety or to the environment, the facility shall take appropriate action to prevent or eliminate the practice which is causing the hazard.

5. Trained personnel shall be present at all times during the operation of the facility.

G. Reporting Requirements.

1. Quarterly reports shall be submitted to the Department, within thirty (30) days of the end of each calendar quarter. The report shall include at a minimum, the following information:

a. Source, type, and total quantity in weight and/or volume of waste received at the facility for the previous quarter;

b. A description of the method and quantity of the distribution and/or disposal of the waste;

c. The weight and/or volume of each material recycled or marketed as a result of the process; and,

d. A report concerning the effectiveness and environmental effect of the facility.

2. Within ninety (90) days from the expiration of the permit, or within another period established by the Department, the owner or operator shall submit to the Department an analysis of the effectiveness and environmental effect of the facility.

H. Departmental Evaluation of Analysis.

1. The Department will review the quarterly reports and other relevant data to determine if the facility is satisfactorily achieving its objectives and if the facility is adequately protecting public health, safety, and the environment.

2. If after two (2) years, the Department determines that the facility adequately achieved its objectives and satisfactorily protected public health, safety, and the environment, the Department subsequently may promulgate regulations or criteria regarding the technology or process in accordance with the authority granted the Department by the Solid Waste Policy and Management Act. Prior to the Department establishing such regulations or criteria, the Department may issue written approval for the continuance of the technology or process.

I. Violations and Penalties.

A violation of this regulation subjects the person to the issuance of a Department order, or to civil or

criminal enforcement action by the Attorney General's Office. In addition, the Department may impose reasonable civil penalties not to exceed ten thousand dollars (\$10,000.00) for each day of violation of the provisions of this regulation, including any order, permit or standard. A person to whom an order is issued may appeal it as a contested case in accordance with R.61-72 and the Administrative Procedures Act.

J. Severability.

Should any section, paragraph, sentence, clause or phrase of this regulation be declared unconstitutional or invalid for any reason, the remainder of this regulation shall not be affected thereby.

R. 61-107.11. Solid Waste Management: Construction, Demolition and Land-Clearing Debris Landfills.

A. Applicability.

1. This regulation establishes minimum standards for the site selection, design, operation, and closure of construction, demolition and land-clearing debris landfills as follows:

a. Part I outlines the requirements for small, short-term construction, demolition and land-clearing debris landfills to be used for structural fill, with a limited waste stream, and with a specified facility life;

b. Part II outlines General Permitting requirements for the disposal of trees, stumps, wood chips, i.e., land-clearing debris, and yard trash to be used for structural fill;

c. Part III outlines the permit-by-rule requirements for the disposal of construction, demolition, and land-clearing debris when the landfill has controlled access and serves a permanently located utility facility or manufacturing firm, such as those listed in the South Carolina Industrial Directory; and,

d. Part IV outlines the requirements for long-term sites, i.e., all other construction, demolition and land-clearing debris landfills not addressed in Parts I, II or III.

2. Landfills for the disposal only of trees, stumps, wood chips, and yard trash when generation and disposal of such waste occurs on properties under the same ownership or control are exempt from the requirements of this regulation.

3. Landfills used solely for disposal of industrial process solid waste generated in the course of normal operations on property under the same ownership or control as the landfill are exempt from the requirements of this regulation.

4. Land-clearing debris generated from agricultural or silvicultural operations generated and disposed on site are not subject to the requirements of this regulation.

5. When only hardened concrete, brick, and block, that have not been in direct contact with hazardous constituents (e.g., pesticides, etc.), petroleum products, or painted with lead-based paint, are used for structural fill in the construction of a foundation for a building project in progress, the activity is exempt from

the requirements of this regulation.

B. Definitions.

1. "Closure" means the discontinuance of operation by ceasing to accept, treat, store, or dispose of solid waste in a manner which minimizes the need for further maintenance and protects human health and the environment.

2. "Construction" means any physical modification to the site at which a potential or proposed solid waste management facility is to be located including, but not limited to, site preparation, clearing, grading, excavation, construction of buildings, installation of liners, etc.

3. "Construction and demolition debris" means discarded solid wastes resulting from construction, remodeling, repair and demolition of structures, road building, and land-clearing. The wastes include, but are not limited to, bricks, concrete, and other masonry materials, soil, rock, lumber, road spoils, paving material, and tree and brush stumps, but does not include solid waste from agricultural or silvicultural operations.

4. "Contingency plan" means a document acceptable to the Department setting out an organized, planned, and coordinated course of action to be followed at or by the facility in case of a fire, explosion, or other incident that could threaten human health and safety or the environment.

5. "Cover" means soil or other suitable material, or both, acceptable to the Department that is used to cover compacted solid waste in a land disposal site.

6. "Department" means the South Carolina Department of Health and Environmental Control.

7. "Disclosure statement" means a sworn statement or affirmation, the form and content of which shall be determined by the Department in accordance with Section 44-96-300.

8. "Disposal" means the discharge, deposition, injection, dumping, spilling, or placing of any solid waste into or on any land or water, so that the substance or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including groundwater.

9. "Facility" means all contiguous land, structures, other appurtenances and improvements on the land used for treating, storing, or disposing of solid waste. A facility may consist of several treatment, storage, or disposal operational units, including, but not limited to, one or more landfills, surface impoundments, or combination thereof.

10. "Financial responsibility mechanism" means a mechanism designed to demonstrate that sufficient funds will be available to meet specific environmental protection needs of solid waste management facilities. Available financial responsibility mechanisms include, but are not limited to insurance, trust funds, surety bonds, letters of credit, personal bonds, certificates of deposit, financial test, and corporate guarantees as determined by the Department by regulation.

11. "Groundwater" means water beneath the land surface in the saturated zone.

12. "Hazardous waste" has the meaning provided in Section 44-56-20 of the South Carolina Hazardous Waste Management Act.

13. "Landfill" means a disposal facility or part of a facility where solid waste is placed in or on land, and which is not a land treatment facility, a surface impoundment, or an injection well.

14. "Land-clearing debris" means solid waste which is generated solely from land-clearing activities, but does not include solid waste from agricultural or silvicultural operations.

15. "Local government" means a county, any municipality located wholly or partly within the county, and any other political subdivision located wholly or partly within the county when such political subdivision provides solid waste management services.

16. "Open dumping" means any unpermitted solid waste disposal activity.

17. "Permit" means the process by which the Department can ensure cognizance of, as well as control over, the management of solid wastes.

18. "Person" means an individual, corporation, company, association, partnership, unit of local government, state agency, federal agency, or other legal entity.

19. "Region" means a group of counties in South Carolina which is planning to or has prepared, approved, and submitted a regional Solid Waste Management Plan to the Department pursuant to Code Section 44-96-80.

20. "Special wastes" has the same meaning as that term is defined in Code Section 44-96-390(A).

21. "Structural fill" means land filling for a projected beneficial end use utilizing acceptable construction and demolition debris and/or land-clearing debris.

22. "Surface water bodies" mean lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic Ocean within territorial limits, and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private, excluding drainage ditches, sedimentation ponds and other operational features on the site.

23. "Vector" means a carrier that is capable of transmitting a pathogen from one organism to another including, but not limited to flies and other insects, rodents, birds, and vermin.

24. "Yard trash", i.e., yard waste, means solid waste consisting solely of vegetative matter resulting from landscaping maintenance.

C. Severability. Should any regulation, paragraph, sentence, clause or phrase of this regulation be declared unconstitutional or invalid for any reason, the remainder of this regulation shall not be affected thereby.

Part I. Small, Short-term Construction, Demolition and Land-Clearing Debris Landfills.

A. General Provisions.

1. A Short-Term Construction, Demolition, and Land-Clearing Debris Landfill Permit, herein after known as a "Short-Term Landfill Permit", may be issued per tract of land and no less than five hundred (500) feet from a present or former short-term construction, demolition, and land-clearing debris landfill if the site will:

a. Provide structural fill of areas. For the purpose of this subsection, "structural fill" means landfilling for future beneficial use utilizing land-clearing debris, hardened concrete, hardened/cured asphalt, bricks, and blocks, compacted and landfilled in a manner acceptable to the Department, i.e., filling an existing low area to grade, consistent with applicable engineering and construction standards and carried out as a part of normal activities associated with construction, demolition, and land-clearing operations; however, the materials utilized must not have been in direct contact with hazardous constituents, petroleum products, or painted with lead-based paint;

b. Have a proposed life of twelve (12) months or less;

c. Occupy one (1) acre in size or less;

d. Receive only those items listed below that have not been in direct contact with hazardous constituents (e.g., pesticides, etc.), petroleum products, or painted with lead-based paint:

(1) land-clearing debris;

(2) hardened concrete;

(3) hardened/cured asphalt;

(4) bricks; and,

(5) blocks;

e. Be consistent with the South Carolina Coastal Zone Management Plan if the landfill is located in the coastal zone as defined by Ocean and Coastal Resources Management; and,

f. Adhere to all Federal and State rules and regulations, and all local zoning, land use, and other applicable ordinances and laws.

2. Landfills for the disposal only of trees, stumps, wood chips, and yard trash when generation and disposal of such waste occurs on properties under the same ownership or control are exempt from the requirements of this regulation.

3. Upon notification by the Department that a landfill poses an actual or potential threat to human health or the environment, the owner/operator shall implement a corrective action program approved by the Department.

4. Open dumping of construction, demolition and/or land-clearing debris, is prohibited.

B. Permit Application Requirements for Short-Term Landfill Permit.

1. Prior to the construction, operation, expansion or modification of a short-term landfill, a permit shall be obtained from the Department.

2. The siting, design, construction, operation, and closure activities of short-term landfills shall conform to the standards set forth in this Part.

3. Any person wishing to obtain a short-term permit for a landfill shall submit to the Department two (2) copies of the following documents:

a. A completed permit application on a form provided by the Department and all information requested on that form;

b. A current tax map showing the location of the proposed landfill.

c. Data to indicate the location of the seasonal high water table in relation to the bottom elevation of the disposal area;

d. A current county map with the location of the proposed landfill marked;

e. A letter of proof of proper zoning from the county or city;

f. A letter from Ocean and Coastal Resources Management (OCRM) stating that the project is consistent with the South Carolina Coastal Zone Management Plan if the proposed landfill is located in the coastal zone as defined in accordance with the Coastal Zone Management Act;

g. A site plan on a scale of not greater than two hundred (200) feet per inch. This plan shall at a minimum identify the following:

(1) Property boundaries, footprint of the landfill, location of any buildings, fences, gates,

entrances, exits, and access roads;

(2) Land use within one-fourth (3) mile of the proposed site's boundaries to include the location of all homes, schools, hospitals, publicly owned recreational park areas, drinking water wells, and roads;

(3) Location of surface water bodies, dry runs, wetlands, the location of the 100-year flood plain boundaries, and other applicable details regarding the general topography of the landfill site and adjacent properties within one-fourth (3) mile of the disposal area; and,

(4) Depth of the disposal area and proposed final elevations, in a cross-sectional view;

h. General operating information on the proposed facility including the following:

(1) The expected life of the facility;

(2) The maximum volume of solid waste the facility will be capable of receiving over the operational life of the facility;

(3) The frequency at which the facility will receive that waste during the designed life of the facility;

(4) The source and description of cover material to be used;

(5) The frequency of covering (at least monthly); and,

(6) An explanation of how the cover will be applied; and,

C. Design Criteria for Short-Term Landfills.

1. The site for the facility shall meet the following standards, unless otherwise approved by the Department:

a. A landfill located in a 100-year floodplain shall demonstrate that the landfill will not restrict the flow of the 100-year flood;

b. A landfill shall be in compliance with the U. S. Army Corps of Engineers and the U. S. Environmental Protection Agency requirements concerning wetlands;

c. Access to the landfill shall be controlled through the use of fences, gates, berms, natural barriers, or other means to prevent promiscuous dumping and unauthorized access;

d. The waste disposal boundary of the landfill shall not be located within one hundred (100) feet of any property line. Variances may be requested and granted on a case-by-case basis upon submittal of written consent from the adjacent landowner(s);

e. The waste disposal boundary of the landfill shall not be located within two hundred (200) feet of any residence, school, day-care center, hospital or publicly owned recreational park area;

f. The waste disposal boundary of the landfill shall not be located within two hundred (200) feet of any surface water body which holds visible water for greater than six (6) consecutive months, excluding ditches, sedimentation ponds, and other operational features on the site;

g. The waste disposal boundary of the landfill shall not be located within one hundred (100) feet of any drinking water well;

h. Waste material shall not be placed on or within fifty (50) feet of underground or above ground utility equipment or structures, i.e., water lines, sewer lines, storm drains, telephone lines, electric lines, etc., without the written approval of the impacted utility.

i. The bottom elevation of the landfill shall be a minimum of two (2) feet above seasonal high water table as it exists prior to construction of the disposal area. The seasonal high water table shall be determined based on interpretation of the data from three (3) hand auger borings at least three (3) inches in diameter to a depth of five (5) feet. These holes shall be bored at the lowest point in the disposal area, and at two (2) other points in the disposal area. The borings shall be covered and allowed to stand for twenty-four (24) hours. The water level in the borings shall be verified by Department personnel;

j. Landfills shall be adjacent to or have direct access to roads which are of all weather construction and capable of withstanding anticipated load limits; and,

2. Drainage control requirements. The disposal area shall be graded with a minimum of 1% slope so as to divert and minimize run-off into the disposal area of the landfill, to prevent erosion and ponding within the disposal area, and to drain water from the surface of the landfill.

3. Procedures shall be established for maintaining conditions that are unfavorable for the habitation and production of insects and rodents.

D. Operation Criteria. The following operational requirements shall apply to all short-term landfills unless otherwise approved by the Department:

1. The landfill shall accept only those waste items listed below that have not been painted with lead-based paint, and have not been in direct contact with hazardous constituents (e.g., pesticides, etc.), or petroleum products:

- a. Land-clearing debris;
- b. Hardened concrete;
- c. Hardened/cured asphalt;
- d. Bricks; and,
- e. Blocks.

2. The landfill shall have an attendant on duty any time the facility is open to accept waste.

3. Unauthorized wastes shall be removed from the landfill site to an approved facility within forty-eight (48) hours of receipt.

4. The disposal area shall be staked prior to receipt of wastes, and the stakes shall remain for the life of the facility.
5. The unloading of solid waste intended for structural fill shall be restricted to the working face of the landfill.
6. The working face of the landfill shall be confined to as small an area as the equipment can safely and efficiently operate. The slope shall not exceed thirty three percent (33%).
7. The waste shall be compacted and a cover consisting of a uniform layer of soil or other suitable material, or both, acceptable to the Department, no less than six (6) inches in depth shall be used to cover all exposed waste material at least monthly.
8. Open burning at landfills shall be prohibited.
9. The facility shall be maintained and operated in a manner which will protect the established water quality standards of the surface waters and ground waters.
10. Dust, odors, fire hazards, litter and vectors shall be effectively controlled so they do not constitute nuisances or hazards.

E. Reporting Requirements. Short-term landfills shall submit in a format approved by the Department an annual report for each fiscal year during which the landfill receives wastes. The fiscal year begins on July 1 and ends on June 30. This report shall be submitted to the Department on or before October 15th and shall identify the actual weight or volume in cubic yards of wastes received per month at the short-term landfill.

F. Closure.

1. Within twelve (12) months of issuance of the permit, the owner/operator of the landfill shall:
 - a. Post signs at the landfill that state the facility is no longer in operation;
 - b. Apply a two (2) foot thick final earth cover with at least a 1% but not greater than 4% surface slope, graded to promote positive drainage. The side slope cover shall not exceed three (3) horizontal feet to one (1) vertical foot, i.e., a 3:1 slope;
 - c. Seed the finished surface of the disposal area with native grasses or other suitable ground cover to establish a minimum of seventy-five percent (75%) permanent vegetative cover with no substantial bare spots; and,
 - d. Submit to the Department written notification that the landfill has been properly closed in accordance with the requirements outlined in this regulation. Upon the Department's verification of proper closure, the Department's permit for this facility shall be terminated;
2. Within thirty (30) days of the Department's verification of proper closure, the owner/operator shall:
 - a. Submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the

Department a plat showing the final boundaries of the disposal area of the closed landfill including the latitude and longitude, and a record of the type, location, and quantity of solid wastes disposed at the facility;

b. Record a notation on the deed to the facility property - or on some other instrument which is normally examined during title search - that will in perpetuity notify any potential purchaser of the property that the land or a portion thereof, has been used for the disposal of solid waste; and,

c. Submit to the Department a copy of the document in which the notation required by Item 2.b. above has been placed.

3. If environmental problems associated with the landfill are detected and confirmed by the Department, the owner/operator shall submit for Department review and approval, a corrective action plan and a schedule of compliance for implementing the plan.

G. Violations and Penalties.

1. Should the Department detect environmental and/or health problems associated with any short-term landfill, monitoring (including groundwater, surface water, and air quality monitoring) may be required by the Department, as appropriate, and based on a case by case evaluation to ensure protection of the environment.

2. A violation of this regulation or violation of any permit, order, or standard subjects the person to the issuance of a Department order, or to civil or criminal enforcement action in accordance with Code Section 44-96-450. In addition, the Department may impose reasonable civil penalties not to exceed ten thousand dollars (\$10,000.00) for each day of violation of the provisions of this regulation, including violation of any order, permit or standard. A person to whom an order is issued may appeal it as a contested case pursuant to R.61-72 and the Administrative Procedures Act.

Part II. General Permitting for the Disposal of Land-Clearing Debris and Yard Trash.

A. General Provisions.

1. The Department may issue a general permit for solid waste landfills used solely for the disposal of trees, stumps, wood chips, and yard trash which is generated from land-clearing activities, excluding agricultural and silvicultural operations when generation and disposal are on site. These landfills shall be limited to structural fill with a projected beneficial end use.

2. The general permit shall, pursuant to Part IV of this regulation, outline the following:

- a. Submittal requirements;
- b. Design criteria;
- c. Operational criteria;
- d. Monitoring, if applicable; and,

e. Closure and corrective action requirements, if applicable.

3. Counties and/or regions comprised of counties may, through the Region/County Solid Waste Management Plans, prohibit or limit the size of land-clearing debris landfills operating under the general permit.

4. A facility shall be covered under the State's general permit if it provides proper notification of intent to the Department as outlined in the general permit, and if constructed and operated in compliance with the requirements established by the permit and this regulation.

5. Owners/operators seeking coverage under the general permit shall submit to the Department a written Notice of Intent to be covered by the general permit on a form approved by the Department. The landfill shall not be placed into operation under the general permit until receipt of Department approval for operation under the general permit.

6. Upon notification by the Department that a landfill operating under the State's general permit poses an actual or potential threat to human health or the environment the owner/operator shall implement a corrective action program approved by the Department.

7. Open dumping of land-clearing debris is prohibited.

8. A facility's approval to operate under the general permit may be revoked for any of the following reasons:

a. The facility fails to comply with the conditions of the general permit or the regulation;

b. Circumstances have changed since the time of the request to be covered so that the owner/operator is no longer appropriately controlled under the general permit, or a temporary or permanent closure of the landfill is necessary;

c. Standards for land-clearing debris landfills covered under the general permit have been promulgated; or,

d. Environmental and/or health problems associated with the landfill are detected by the Department.

9. When an individual solid waste landfill permit is issued to an owner/operator otherwise subject to the general permit, the applicability of the general permit to that landfill is automatically terminated on the effective date of the individual permit.

10. A landfill excluded from the general permit solely because it already has an individual landfill permit may request that the individual permit be revoked, and that the landfill be covered by the general permit. Upon revocation of the individual permit and approval of the Notice of Intent to operate under the general permit, the general permit shall apply to the landfill.

11. The general permit may be issued, modified, revoked and reissued, or terminated in accordance with applicable requirements of Part IV of this regulation.

12. Any general permit for disposal of solid waste issued by the Department shall be publicly noticed.

13. Any general permit shall be subject to the terms and conditions in this regulation.

14. Landfills operating under the general permit shall adhere to all Federal and State rules and regulations, and all local zoning, land use, and other applicable ordinances and laws.

B. Notice of Intent.

1. Prior to landfilling land-clearing debris under the State's general permit, the owner/operator shall submit to the Department a Notice of Intent on a form approved by the Department. This Notice shall be accompanied by all information required by the general permit. All required information shall be complete and accurate.

2. The Notice of Intent shall be signed by the landfill operator. The landowner shall also sign the Notice of Intent, thereby giving authorization for the proposed landfilling activity on said property. Any changes in the written authorization submitted to the Department which occur after the issuance of the Department's approval to operate under the general permit shall be reported to the Department by submitting a copy of the new written authorization.

3. Any person signing a Notice of Intent to landfill under the general information shall also sign the

following certification: "I certify under penalty of law that I have personally examined and am familiar with the information submitted in the attached document; and, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

C. Record Keeping and Reporting Requirements. Landfills operating under the General Permit shall submit in a format approved by the Department an annual report for the fiscal year beginning on July 1 and ending on June 30. This report shall be submitted to the Department on or before October 15th and shall identify the actual weight or volume in cubic yards of wastes received per month at the land-clearing debris and yard trash landfill.

D. Violation and Penalties. A violation of this regulation or violation of any permit, order, or standard subjects the person to the issuance of a Department order, or to civil or criminal enforcement action in accordance with Code Section 44-96-450. In addition, the Department may impose reasonable civil penalties not to exceed ten thousand dollars (\$10,000.00) for each day of violation of the provisions of this regulation, including violation of any order, permit or standard. Any person to whom an order is issued may appeal it as a contested case pursuant to R.61-72 and the Administrative Procedures Act.

Part III. Landfills for disposal of construction, demolition, and land-clearing debris that have controlled access and serve permanently located utility facilities and manufacturing firms, such as those listed in the South Carolina Industrial Directory, shall be considered Part III landfills.

A. General Provisions.

1. Structural fill. Permanently located utility facilities and manufacturing firms, such as those listed in the South Carolina Industrial Directory, i.e., Part III facilities, may use certain solid waste that is generated on-site for structural fill. Such activities are exempt from the requirements of this regulation if the site will:

- a. Provide structural fill of areas with a beneficial end use;
- b. Have controlled access through the use of fences, gates or natural barriers, or other means to prevent promiscuous dumping and unauthorized access; and,
- c. Receive only those items listed below that are generated as a result of construction, remodeling, repair and demolition of structures, road building, and land clearing in the course of operations on property under the same ownership or control as the structural fill activity and that have not been in direct contact with hazardous constituents (e.g., pesticides, etc.), petroleum products, or painted with lead-based paint:

- (1) hardened concrete;
- (2) brick;
- (3) block;

- (4) untreated lumber; and,
- (5) other items specifically approved in writing by the Department.

2. Permit-by-Rule. Part III landfills shall be deemed to have a permit for disposal of construction, demolition, and land-clearing debris generated in the course of operations on property under the same ownership or control as the landfill as outlined in Section B. below.

B. Permit-by-Rule. The siting, design, construction, operation, and closure activities of landfills that receive construction, demolition and/or land-clearing debris and that serve Part III facilities shall conform to the standards set forth in this Part.

1. A Part III facility shall be deemed to have a permit for the purposes of this Part if it is registered with the Department, and constructed and operated in compliance with the requirements outlined below:

a. Only construction, demolition and land-clearing debris as outlined in Appendix I of this regulation that does not contain and is not in direct contact with hazardous constituents (e.g., pesticides, etc.), petroleum products, or lead-based paint, and that is generated as a result of construction, remodeling, repair and demolition of structures, road building, and land clearing in the course of operations on property under the same ownership or control as the landfill shall be accepted for disposal at a Part III approved landfill.

b. Thirty (30) days after submittal of a complete notification submittal to the Department, the landfill may begin operating unless otherwise notified by the Department.

c. Approvals to operate under this Permit-by-rule shall be effective for the design and operational life of the landfill. However, the Department shall include additional limitations, standards, or conditions when the technical limitations, standards, or regulations on which the original approval was based have been changed by statute or amended by regulation.

d. The owner of a landfill shall notify the Department not later than 30 days following transfer of ownership of the landfill during the active life of the landfill, e.g., until issuance of Department final closure approval.

e. If at any time the Department obtains quantitative data indicating that the landfill poses an actual or potential threat to human health or the environment, upon notification by the Department, the owner/operator shall implement a corrective action program approved by the Department.

f. Open dumping of construction, demolition, and land-clearing debris is prohibited.

g. All landfills shall adhere to all Federal and State rules and regulations, and all local zoning, land use and other applicable local ordinances.

h. Access to the landfill shall be controlled through the use of fences, gates, berms, natural barriers, or other means to prevent promiscuous dumping and unauthorized access.

2. Registration Requirements:

a. Prior to landfilling at a Part III landfill under the State's permit-by-rule, the entity responsible for the landfill shall register with the Department. A registration form approved by the Department and all information required by this Part shall be submitted to the Department no less than thirty (30) days prior to operation of the proposed landfill. All required information shall be complete and accurate. If the Department fails to notify the applicant for either a request for additional information, or with a denial of approval to operate under the permit-by-rule within thirty (30) days of receipt of a complete registration submittal, the landfill may begin operating.

b. A company official, e.g., plant manager, etc., shall sign the registration form and the following certification: "I certify under penalty of law that I have personally examined and am familiar with the information submitted in the attached document; and, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

c. Any person wishing to operate a landfill under this permit-by-rule shall submit to the Department three (3) copies of the following documents prior to accepting waste:

(1) A registration form approved by the Department. This form shall include at a minimum the following information:

(a) Business entity responsible for the landfill;

(b) Title of individual responsible for operation of the landfill;

(c) The estimated expected life of the landfill;

(d) The maximum volume of solid waste the landfill will be capable of receiving over the operational life of the landfill;

(e) The source and description of cover material to be used; and,

(f) An explanation of how the cover will be applied;

(2) A site plan on a scale of not greater than two hundred (200) feet per inch. This plan shall be prepared by a South Carolina licensed professional engineer and shall at a minimum identify the following:

(a) Property boundaries, footprint of the landfill, location of any buildings, fences, gates, entrances, exits, and access roads;

(b) Land use of the property immediately adjacent to the proposed disposal area boundaries to include the location of all homes, schools, hospitals, publicly owned recreational park areas, drinking water wells, and roads;

(c) Location of surface water bodies, dry runs, wetlands, the location of the 100-year flood

plain boundaries, and other applicable details regarding the general topography of the landfill site and adjacent properties within one-fourth (3) mile of the disposal area; and,

(d) Depth of the disposal area and proposed final elevations, in a cross-sectional view;

(3) A current county map showing the location of the landfill; and,

(4) A current 7.5 minute quadrant map (U.S. Geological Survey topographic map, including the legend and name of the quadrant) with the proposed disposal area marked.

3. Siting Criteria. New and expanding landfills shall meet the siting criteria outlined below. Variances may be requested for landfills and may be granted on a case-by-case basis upon demonstration by the applicant that the variance will not adversely impact human health or the environment, and based on the landfill's past compliance history.

a. A landfill located in a 100-year floodplain shall demonstrate that the landfill will not restrict the flow of the 100-year flood;

b. A landfill shall be in compliance with the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency requirements concerning wetlands;

c. The waste disposal boundary of the landfill shall not be located within one hundred (100) feet of any property line without written consent from the adjacent landowner(s);

d. The waste disposal boundary of the landfill shall not be located within two hundred (200) feet of any residence, school, day-care center, hospital or publicly owned recreational park area;

e. The waste disposal boundary of the landfill shall not be located within two hundred (200) feet of any surface water body which holds visible water for greater than six (6) consecutive months, excluding drainage ditches, sedimentation ponds and other operational features on the site;

f. The waste disposal boundary of the landfill shall not be located within the wellhead protection area of a public well, and shall comply with the buffer for private drinking water wells as established by the Department's State Primary Drinking Water Regulations;

g. The bottom elevation of the landfill shall be a minimum of two (2) feet above seasonal high water table as it exists prior to construction of the disposal area; and,

h. Waste material shall not be placed on or within fifty (50) feet of underground or above ground utility equipment or structures, i.e., water lines, sewer lines, storm drains, telephone lines, electric lines, etc., without the written approval of the impacted utility.

4. Operation Criteria. Any landfill operating under this Permit-by-Rule shall adhere to the following operational criteria:

a. The landfill shall accept only waste as outlined in Section B.1.a. of this Part;

b. Unauthorized wastes shall be removed from the landfill within seventy-two (72) hours of receipt to a facility permitted to accept the waste;

c. The unloading of solid waste intended for disposal in the landfill shall be restricted to the working face of the landfill;

d. A uniform layer of earth cover no less than six (6) inches in depth or a uniform layer of non-flammable waste, e.g., bricks, blocks, hardened/cured asphalt, hardened cement, etc., shall be placed over all exposed flammable waste material, e.g., paper products, wood products, etc., at the end of each project, but no less frequently than monthly;

e. Open burning at landfills shall be prohibited;

f. The site shall be maintained and operated in a manner which will protect the established water quality standards of the surface waters and ground waters;

g. Dust, odors, fire hazards, litter and vectors shall be effectively controlled so they do not constitute nuisances or hazards; and,

h. Storm water shall be diverted to minimize run-off into the disposal area of the landfill. An appropriate permit from the Department may be required prior to the discharge of any storm waters to surface waters.

5. Closure Requirements.

a. Within six (6) months following the last receipt of solid waste at a site, the application of final cover shall be completed. A two (2) foot thick final earth cover is required with at least a 1% but not greater than 4% surface slope, graded to promote positive drainage. The side slope cover shall not exceed three (3) horizontal feet to one (1) vertical foot, i.e., a 3:1 slope. The integrity of the final cover shall be maintained.

b. Within seven (7) months following the last receipt of solid waste at the site, the finished surface of the disposal area shall be seeded with native grasses or other suitable ground cover.

c. Within ten (10) days of grading and seeding, pursuant to item #5.b. above, a company official shall submit to the Department verification that the landfill has been properly closed in accordance with requirements outlined in this Part. Upon receipt of verification of closure, the Department will schedule an inspection of the landfill. Upon issuance of the Department's final closure approval, the Department's approval to operate under this permit-by-rule for this site shall be terminated.

C. Violations and Penalties. A violation of this Part constitutes a violation of this regulation and of the South Carolina Solid Waste Policy and Management Act of 1991, S.C. Code Ann. Section 44-96-10, et seq., and subjects the violator to civil or criminal enforcement action in accordance with Code Section 44-96-450. In addition, the Department may impose reasonable civil penalties not to exceed ten thousand dollars (\$10,000.00) for each day of violation of the provisions of this Part, including violation of any order or standard. A person to whom an order is issued may appeal such action as a contested case pursuant to R.61-

72 and the Administrative Procedures Act.

Part IV. Long-Term Construction, Demolition, and Land-Clearing Debris Landfills, i.e., All Other Construction, Demolition and Land-Clearing Debris Landfills Not Addressed in Parts I, II or III.

A. General Provisions.

1. The siting, design, construction, operation, and closure activities of landfills which receive construction, demolition and/or land-clearing debris shall conform to the standards set forth in this Part.
2. Landfills for the disposal only of trees, stumps, wood chips, and yard trash, when generation and disposal of such waste occurs on properties under the same ownership or control, are exempt from the requirements of this regulation.
3. Upon obtaining data the landfill poses a threat to human health or the environment, the Department, upon notification to the owner/operator, may require the owner/operator to implement a corrective action program approved by the Department.
4. Landfills shall be consistent with the host Region/County Solid Waste Management Plan.
5. Prior to the issuance of a permit for a new or expanded facility, the Department shall approve an allowable rate of disposal based on the Region/County Solid Waste Management Plans, the Letters of Consistency, the facility's design capacity, the expected operational life, and the area to be served by the facility as outlined in the permit application.
6. Only those items listed in Appendix I of this regulation and any items specifically listed on the facility's permit issued by the Department which have not come into contact with hazardous constituents (e.g., pesticides, etc.), petroleum products, or lead-based paint shall be accepted for disposal at the landfill unless specifically authorized by the Department as stated in Sections D.3. and E.1. of this Part.
7. A separate permit shall be required for each landfill even though there may be one or more different types of landfills located on the same site.
8. Open dumping of construction, demolition, and land-clearing debris is prohibited.
9. The permittee of a landfill shall notify the Department prior to transfer of ownership or operation of the landfill during the active life of the landfill, e.g., until issuance of Department final closure approval.

B. Permit Application Requirements.

1. Prior to the construction, operation, expansion or modification of a landfill, a permit shall be obtained from the Department.
2. Any person wishing to obtain a permit for a landfill shall submit to the Department three (3) copies of

the following documents:

- a. A completed permit application on a form provided by the Department;
- b. Complete construction plans and specifications prepared by a South Carolina licensed professional engineer which include, but are not limited to, the following:
 - (1) A site plan on a scale of not greater than two hundred (200) feet per inch. This plan shall at a minimum identify the following:
 - (a) Property boundaries, footprint of the landfill, existing and proposed structures and systems, and access roads;
 - (b) Land use and zoning within one-fourth (3) mile of the proposed site's boundaries to include the location of all homes, schools, hospitals, publicly owned recreational park areas, drinking water wells, and roads;
 - (c) Location of surface water bodies, dry runs, wetlands, the location of the 100-year flood plain boundaries, and other applicable details regarding the general topography of the landfill site and adjacent properties within one-fourth (3) mile of the disposal area; and,
 - (d) Site conditions and projected use including all site structures, buildings, fences, gates, entrances and exits, parking areas, on-site roadways, and signs;
 - (2) An engineering report which shall include, but is not limited to, the following:
 - (a) A current 7.5 minute quadrant map (U.S. Geological Survey topographic map, including the legend and name of the quadrant) which shows contour intervals not exceeding ten (10) feet, any proposed fill area, any borrow area, grades for proper drainage of each lift required and typical cross sections of lifts, special drainage devices if necessary, fencing, equipment shelters, existing and proposed utilities, employee facilities, and all other pertinent information to clearly indicate the orderly development, operations, and completion of the site;
 - (b) Source and description of cover material to be used;
 - (c) Frequency of covering (at least monthly);
 - (d) Depth of disposal area;
 - (e) Final contours of the finished landfill areas;

(f) A general operating plan for the proposed facility including the expected life of the facility, the maximum volume of solid waste the facility will be capable of receiving over the operational life of the facility, and the maximum rate at which the facility will receive that waste during the designed life of the facility;

(g) Method for inspecting and measuring incoming waste;

(h) Procedures for control of storm water drainage;

(i) Procedures for prevention of fires;

(j) Procedures for control of vectors;

(k) Procedures for odor control;

(l) Procedures for dust control;

(m) Hours of operation;

(n) List of equipment to be used for excavating, earth moving, spreading, compacting and covering operations;

(o) A contingency plan describing landfill operation in the event of equipment failure. Reserve equipment shall be available within twenty four (24) hours of equipment breakdown;

(p) A list of items that are not listed in Appendix I of this regulation that the owner/operator wishes to place in the landfill, the anticipated quantity and source of the waste. Upon Department review, items other than those listed in Appendix I, that are approved for landfilling, shall be listed on the permit for that facility. After issuance of the permit, other items may be approved for disposal at the landfill by modification of the permit by the Department. Only items that will cause no environmental harm as determined by the Department will be approved for disposal;

(q) Data to indicate the location of the seasonal high water table in relation to the bottom elevation of the proposed landfill; and,

(r) A detailed closure plan in accordance with Section G of this Part, to include a description of the final cover and the methods and procedures to be used to install the cover. This plan shall also include the following: an estimate of the largest area of the landfill that will ever require a final cover at any time during the active life of the facility; an estimate of the maximum inventory of wastes ever on site over the active life of the facility; a schedule for completing all activities; and, a site plan of the landfill showing the proposed final elevations. The plan may be amended at any time during the active life of the facility with Department approval. The plan shall be amended whenever changes in operating plans or facility design affect the closure plan, or whenever there is a change in the expected year of closure;

c. A letter from Ocean and Coastal Resources Management (OCRM) stating that the project is consistent with the South Carolina Coastal Zone Management Plan if the proposed landfill is located in the

coastal zone as defined in accordance with the Coastal Zone Management Act;

d. An outline of a financial assurance mechanism. The owner/ operator of each facility shall establish sufficient financial assurance to ensure satisfactory maintenance and closure, and to carry out any corrective action which may be required as a condition of a permit. Consideration shall be given to mechanisms which would provide flexibility to the owner/operator in meeting its financial obligations. The owner/operator shall be allowed to use combined financial responsibility mechanisms for a single facility and shall be allowed to combine financial responsibility mechanisms for multiple facilities, utilizing actuarially sound risk-spreading techniques. Financial assurance requirements do not apply to local governments or regions comprised of local governments unless and until such time as federal regulations require such local governments and regions to demonstrate financial responsibility for such facilities; and,

e. A disclosure statement on a form provided by the Department pursuant to Code Section 44-96-300. The Department may accept one disclosure statement for multiple facility permit applicants. Local governments and regions comprised of local governments are exempt from this requirement.

3. Failure to begin construction of the landfill within twelve (12) months of the issuance of the Department permit shall render that permit invalid.

C. Design Criteria for Construction, Demolition and Land-Clearing Debris Landfills.

1. The site for a new landfill or expansion of an existing landfill shall meet the following standards, unless otherwise approved by the Department:

a. A landfill located in a 100-year floodplain shall demonstrate that the landfill will not restrict the flow of the 100-year flood;

b. A landfill shall be in compliance with the U. S. Army Corps of Engineers and the U. S. Environmental Protection Agency requirements concerning wetlands;

c. Access to the landfill shall be controlled through the use of fences, gates, berms, natural barriers, or other means to prevent promiscuous dumping and unauthorized access;

d. The waste disposal boundary of the landfill shall not be located within one hundred (100) feet of any property line;

e. The waste disposal boundary of the landfill shall not be located within one thousand (1000) feet of any residence, school, day-care center, hospital or publicly owned recreational park area;

f. The waste disposal boundary of the landfill shall not be located within two hundred (200) feet of any surface water body which holds visible water for greater than six (6) consecutive months, excluding drainage ditches, sedimentation ponds and other operational features on the site;

g. The waste disposal boundary of the landfill shall not be located within one hundred (100) feet of any drinking water well;

h. The bottom elevation of the landfill trench shall be a minimum of two (2) feet above the seasonal high water table elevation as it exists prior to construction of the disposal area. The seasonal high water table elevation shall be determined based on interpretation of the data obtained from a representative number of monitoring wells approved by the Department. The Department may consider alternative information for determining the seasonal high water table elevation on a case by case basis. In cases where there is insufficient information to support the seasonal high water table elevation determination, additional separation may be required by the Department.

i. The landfill shall be adjacent to or have direct access to roads which are of all-weather construction and capable of withstanding anticipated load limits; and,

j. All landfills shall adhere to all Federal and State rules and regulations, and all local zoning, land use, and other applicable ordinances and laws.

k. Waste material shall not be placed on or within fifty (50) feet of underground or above ground utility equipment or structures, i.e., water lines, sewer lines, storm drains, telephone lines, electric lines, etc., without the written approval of the impacted utility.

2. Drainage control requirements.

a. The disposal area shall be graded with a minimum of a 1% slope so as to divert and minimize run-off into the disposal area of the landfill, to prevent erosion and ponding within the disposal area, and to drain water from the surface of the landfill;

b. Prior to accepting waste, the owners/operators shall design, construct, and subsequently maintain:

(1) A run-on control system to prevent flow onto the active portion of the landfill during peak discharge from a 24-hour, 25-year storm; and,

(2) A run-off control system from the active portion of the landfill to collect and control at least the water volume resulting from a 24-hour, 25-year storm; and,

c. An appropriate permit from the Department may be required prior to the discharge of any storm waters to surface waters.

3. Access to fire equipment and fire-fighting services shall be provided.

4. Procedures shall be established for maintaining conditions that are unfavorable for the habitation and production of insects, rodents and other pests.

D. Acceptability of Waste at Construction, Demolition, & Land-Clearing Debris Landfills.

1. Wastes that have been determined by the Department to be acceptable are listed in Appendix I.

2. Items listed in Appendix II and wastes, e.g., items listed in Appendix I, etc., which have been in direct contact with or may contain petroleum products, lead-based paint, or any hazardous constituents listed in the

S.C. Hazardous Waste Management Regulations R.61-79.261, are prohibited.

3. Any requests for the acceptance of a particular waste not listed in either Appendix I or II, shall be directed to the Department for a determination of acceptability and modification of the permit.

E. Operation Criteria for Construction, Demolition and Land-Clearing Debris Landfills.

1. The landfill shall accept only waste as outlined in Appendix I of this regulation and in the Department's permit for that facility unless specifically approved by the Department.

2. Unauthorized wastes shall be removed from the landfill site to an approved facility within forty-eight (48) hours of receipt, unless otherwise approved by the Department.

3. The unloading of solid waste intended for disposal in the landfill shall be restricted to the working face of the landfill.

4. The working face of the landfill shall be confined to as small an area as the equipment can safely and efficiently operate. The slope shall not exceed thirty three percent (33%).

5. Solid waste shall be spread in uniform layers to the extent practical and compacted to its smallest practical volume.

6. Unless otherwise approved by the Department, a uniform compacted layer of earth cover or other suitable cover material acceptable to the Department, no less than six (6) inches in depth shall be placed over all exposed waste material at least monthly. Depending on the nature of the disposed materials, more frequent cover may be required in the Department's permit for that facility.

7. Open burning at landfills shall be prohibited.

8. The site shall be maintained and operated in a manner which will protect the established water quality standards of the surface waters and ground waters.

9. [Reserved]

10. Dust, odors, fire hazards, litter and vectors shall be effectively controlled so they do not constitute nuisances or hazards.

11. The landfill shall have an attendant on duty at all times the facility is open.

12. Sign Requirements. Signs shall be posted and maintained in conspicuous places which:

a. Identify the owner, operator, or a contact person and telephone number in case of emergencies and the hours during which the landfill is open for use;

b. State the types of waste that the landfill is permitted to receive; and,

- c. Identify the valid SCDHEC Permit Number for the facility.

13. Prior to accepting any materials containing nonfriable asbestos for disposal at the landfill, the operator shall include in its landfill records a copy of a "permission for disposal" letter from the Department. The landfill shall retain these letters for a period of not less than five (5) years and shall make them available to the Department upon request.

F. Monitoring and Reporting Requirements.

1. If at any time the Department determines that a landfill poses an actual or potential threat to human health or the environment, upon notification by the Department, the owner/operator shall implement a corrective action program approved by the Department.

2. Upon implementation of a contingency plan, the Department shall be notified immediately by telephone with written confirmation to follow.

3. Landfills shall maintain daily records of:

- a. The actual weight or total volume in cubic yards of waste received;
- b. The particular grid location of the area currently being used for disposal of solid waste; and,
- c. [Reserved].

4. Landfills shall submit in a format approved by the Department an annual report for the fiscal year beginning on July 1 and ending on June 30. This report shall be submitted to the Department on or before October 15th and shall include the information outlined below. This information shall be maintained by the owner/operator for a period not less than five (5) years.

- a. The actual weight or volume in cubic yards of wastes received per month; and,
- b. A description of the capacity of the landfill used in the previous fiscal year and the remaining permitted capacity.

5. Six (6) months prior to Department review of the facility's permit in accordance with Section I. of this Part, the landfill shall submit to the Department a topographic survey map of the site that shows the contours at the beginning and the end of the period since the last permit review.

G. Closure. The termination of disposal operations at a construction, demolition and land-clearing debris landfill, whether the entire landfill site or a portion thereof, shall be in compliance with the following requirements.

1. Within one (1) month following the last receipt of solid waste at a site or a part of the site, the application of final cover shall begin. A two (2) foot thick final earth cover is required with at least a 1% but not greater than 4% surface slope, graded to promote positive drainage. The side slope cover shall not exceed three (3) horizontal feet to one (1) vertical foot, i.e., a 3:1 slope. Alternate final cover designs may be

submitted for Department review and approval. Unless otherwise approved by the Department, the application of final cover shall be completed within six (6) months of the last receipt of solid waste at the facility. The integrity of the final cover shall be maintained.

2. The finished surface of the disposal area shall be seeded with native grasses or other suitable ground cover within five (5) days of the completion of that portion of the landfill. A minimum of seventy-five percent (75%) vegetative ground cover with no substantial bare spots shall be established and maintained into the second growing season.

3. Within five (5) days of closure of the entire landfill, the owner/operator shall post signs at the landfill that state the facility is no longer in operation.

4. Upon closure of the entire landfill and within ten (10) days of grading and seeding, pursuant to item #2 above, a professional engineer licensed in the State of South Carolina shall submit to the Department verification that the landfill has been properly closed in accordance with requirements outlined in this Part and the facility's permit. Upon receipt of verification of closure, the Department will schedule an inspection of the facility. Upon issuance of the Department's final closure approval, the Department's permit for this facility shall be terminated.

5. If environmental problems associated with the landfill are detected and confirmed by the Department, the owner/operator shall submit for Department review and approval, a corrective action plan and a schedule of compliance for implementing the plan.

6. Within thirty (30) days of the Department's issuance of final closure approval, the owner shall:

a. Submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Department a plat showing the final boundaries of the waste disposal area of the closed landfill including the latitude and longitude, and a record of the type, location, and quantity of solid wastes disposed at the facility;

b. Record a notation on the deed to the facility property - or on some other instrument which is normally examined during title search - that will in perpetuity notify any potential purchaser of the property that the land or a portion thereof, has been used for the disposal of solid waste; and,

c. Submit to the Department a copy of the document in which the notation required by Item 6.b. above has been placed.

H. Violations and Penalties. A violation of this regulation or violation of any permit, order, or standard subjects the person to the issuance of a Department order, or to civil or criminal enforcement action in accordance with Code Section 44-96-450. In addition, the Department may impose reasonable civil penalties not to exceed ten thousand dollars (\$10,000.00) for each day of violation of the provisions of this Part, including violation of any order, permit or standard. A person to whom an order is issued may appeal it as a contested case pursuant to R.61-72 and the Administrative Procedures Act.

I. Permit Review. Permits shall be effective for the design and operational life of the facility. The Department shall review the permit at least once every five (5) years.

1. If, upon review, the Department finds that material or substantial violations of the permit demonstrate the permittee's disregard for, or inability to comply with applicable laws, regulations, or requirements and would make continuation of the permit not in the best interest of human health and safety or the environment, the Department may, after a hearing, amend or revoke the permit, as appropriate and necessary. When a permit is reviewed, the Department shall include additional limitations, standards, or conditions when the technical limitations, standards, or regulations on which the original permit was based have been changed by statute or amended by regulation.

2. The Department may amend or attach conditions to a permit when:

a. There is a significant change in the manner and scope of operation which may require new or additional permit conditions or safeguards to protect human health and safety and the environment;

b. The investigation has shown the need for additional equipment, construction, procedures, and testing to ensure the protection of human health and safety and the environment; and,

c. The amendment is necessary to meet changes in applicable regulatory requirements.

Appendix I
ACCEPTABLE WASTE
FOR
CONSTRUCTION, DEMOLITION, AND LAND-CLEARING DEBRIS LANDFILLS

The following types of waste have been determined by the Department to be environmentally safe and may be accepted at construction, demolition & land-clearing debris landfills unless specifically prohibited by the Department. However, any of the materials listed in this appendix that have been painted with lead-based paint and/or have been in direct contact with hazardous constituents (e.g., pesticides, etc.), or petroleum products, are prohibited from disposal at a construction, demolition, and land-clearing debris landfill.

Acceptable Land-Clearing Debris Such As:

- | | |
|---|---|
| <ul style="list-style-type: none"> . earthen material, e.g., clays, sands, gravels, & silts . logs . tree stumps . root mats | <ul style="list-style-type: none"> . top soil . vegetation . rock . brush & limbs |
|---|---|

Acceptable Construction & Demolition Debris Such As:

- | | |
|--|--|
| <ul style="list-style-type: none"> . structural steel . bricks & blocks . plaster & plasterboard . shingles & roofing materials . hardened/cured asphalt (2) . pipes . floor coverings . other structural fabrics . poly fiberglass (highly polished, cured material used for shower stalls, roofing, etc.) . glass . nonfriable asbestos-containing material (3) | <ul style="list-style-type: none"> . hardened concrete . lumber . insulation material . floor, wall & ceiling tile . hardened cement . glass wire (optical fiber) . wall coverings . tires (1) . other items physically attached to the structure, e.g., signs, mailboxes, awnings, etc. . mirrors |
|--|--|

(1) Tires shall be reduced in size by a minimum of one-eighth the size of the original tire prior to landfill disposal.

(2) Tar sealant material is not acceptable.

(3) Nonfriable asbestos-containing material which is in good condition and has not been handled in such

a way as to render it a regulated material and thus subject to Bureau of Air Quality Control (BAQC) Regulation 61-86.1 (Standards of Performance for Asbestos Abatement Operations) and the National Emissions Standards for Hazardous Air Pollutants [40 CFR 61 Subpart M] is acceptable. Record keeping of all asbestos-containing material shall be in accordance with Bureau of Air Quality Control Regulation 61-86.1 (Standards of Performance for Asbestos Abatement Operations) and the National Emissions Standards for Hazardous Air Pollutants [40 CFR 61, and Subpart M]). Prior to disposal of any nonfriable asbestos-containing material, the generator of the asbestos waste shall have a "permission for disposal" letter from the Department.

Appendix II

UNACCEPTABLE WASTE

The following types of waste have been determined to pose a potential threat to the environment and may not be accepted at construction, demolition & land-clearing debris landfills.

Any Waste That Has Been In Contact With Lead-Based Paint Such As:

- | | |
|--|--|
| <ul style="list-style-type: none"> . plaster & plasterboard . concrete . wall paper . containers (cans, buckets, etc.) | <ul style="list-style-type: none"> . metal poles . painting equipment . mechanical parts . lumber (siding, cabinets, shingles, etc.) |
|--|--|

Any Waste That Has Been In Contact With Petroleum Products Such As:

- | | |
|--|---|
| <ul style="list-style-type: none"> . storage tanks . pipes . mechanical/machine parts . absorbent (vermiculite) . paper towels & rags | <ul style="list-style-type: none"> . containers . filters (oil, etc.) . soil . concrete |
|--|---|

Any Waste That Has Been In Contact With Friable Asbestos Material Such As:

- | | |
|---|--|
| <ul style="list-style-type: none"> . pipe insulation . asbestos-cement products that have been crumbled/pulverized . roofing material that has been cut with a saw | <ul style="list-style-type: none"> . broken/chipped floor tiles . friable asbestos containing material |
|---|--|

Any Waste That Has Been In Contact With Polychlorinated Biphenols (PCBs) Such As:

- | | |
|--|--|
| <ul style="list-style-type: none"> . transformers | <ul style="list-style-type: none"> . capacitors |
|--|--|

- . electrical components
- . any waste that has come in contact with any liquid-containing PCBs
- . lighting ballasts

Any Waste That Has Been In Contact With Solvents
(industrial plants, chemical plants, laboratories,
construction sites, etc.) Such As:

- . caulking compounds
- . containers (packaging)
- . filters
- . pumps
- . mechanical/machine parts (valves)
- . flooring (wood, carpet)
- . soil
- . storage tanks
- . paint thinner
- . pipes
- . vats
- . adhesives
- . cement
- . cabinets (shelves)
- . tar
- . glazing compound
- . absorbent

Any Waste That Has Been In Contact With Preservatives
(pentachlorophenol & creosote) Such As:

- . railroad ties
- . soil
- . any mechanical part used in manufacturing processes
- . utility poles
- . containers

Any Waste That Has Been In Contact With
Pesticides/Herbicides Such As:

- . containers (packaging)
- . soil
- . mechanical/machine parts
- . any equipment used for application
- . vats
- . concrete
- . wood (storage area)

Miscellaneous Waste Such As:

- . lamps (mercury) (1)
- . liquid waste (paint, paint thinner, etc.) & containers (paint cans, etc.)
- . caulking tubes
- . unpolished fiberglass (Bondo)
- . solid waste which may contain a waste or substance determined by the Department to be unacceptable

- (1) Fluorescent lamps and high intensity discharge (HID) lamps such as metal halide and mercury vapor lamps.

R.61-107.12. Solid Waste Management: Solid Waste Incineration and Solid Waste Pyrolysis Facilities.

A. Applicability.

1. This regulation establishes the procedures, documentation, and other requirements which must be met for the proper operation and management of all solid waste incineration facilities, including all solid waste pyrolysis facilities, and waste-to-energy facilities burning solid waste used for energy recovery.
2. Facilities incinerating solid waste generated in the course of normal operations on property under the same ownership or control as the solid waste incineration facility are exempt from the requirements of this regulation. This exemption includes industrial boilers and furnaces that burn industrial by-products generated on-site, or on properties under the same ownership or control. Mobile air curtain incinerators burning only yard-trash and land-clearing debris generated on-site, or generated on properties under the same ownership or control, are exempt from the requirements of this regulation. Air curtain incinerators temporarily used in clean-up after a natural disaster are exempt from the requirements of this regulation.
3. Industrial boilers and industrial furnaces that burn Refuse-Derived Fuel (RDF) only, or burn RDF with a fossil fuel or wood are exempt from the requirements of this regulation.
4. Facilities that treat contaminated soils pursuant to other regulations are exempt from the requirements of this regulation.
5. Disposal of hazardous waste from conditionally exempt small quantity generators at solid waste incinerators is prohibited unless the incinerator is permitted under the South Carolina Hazardous Waste Management Regulations.

B. Definitions.

1. "Air curtain incinerator" means an incinerator that operates by forcefully projecting a curtain of air across an open chamber or pit in which burning occurs. Incinerators of this type can be constructed above or below ground and require a refractory lined chamber or pit.
2. "Applicant" means an individual, corporation, partnership, business association, or government entity that applies for the issuance, transfer, or modification of a permit under this article.
3. "Ash" means the solid residue from the incineration of solid waste.
4. "Closure" means the discontinuance of operation by ceasing to accept, treat, store, or dispose of solid waste in a manner which minimizes the need for further maintenance and protects human health and the environment.
5. "Commercial solid waste" means all types of solid waste generated by stores, offices, restaurants,

warehouses, and other nonmanufacturing activities, excluding residential and industrial solid wastes.

6. "Department" means the South Carolina Department of Health and Environmental Control.

7. "Disclosure Statement" means a sworn statement or affirmation, the form and content of which shall be determined by the Department and as required by Code Section 44-96-300.

8. "Financial responsibility mechanism" means a mechanism designed to demonstrate that sufficient funds will be available to meet specific environmental protection needs of solid waste management facilities. Available financial responsibility mechanisms include, but are not limited to, insurance, trust funds, surety bonds, letters of credit, personal bonds, certificates of deposit, financial tests, and corporate guarantees as determined by the Department by regulation.

9. "Incineration" means the use of controlled flame combustion to thermally break down solid, liquid, or gaseous combustible wastes, producing residue that contains little or no combustible materials.

10. "Incinerator" means any engineered device used in the process of controlled combustion of waste for the purpose of reducing the volume, and/or reducing or removing the hazardous potential of the waste charged by destroying combustible matter leaving the noncombustible ashes, material and/or residue.

11. "Industrial boiler" means a boiler that produces steam, heated air, or other heated fluids for use in a manufacturing process.

12. "Industrial furnace" means any of the following enclosed devices that are integral components of manufacturing processes and that use controlled flame devices to accomplish recovery of materials or energy:

- a. Cement kilns;
- b. Lime kilns;
- c. Aggregate kilns;
- d. Phosphate Kilns;
- e. Coke ovens;
- f. Blast furnaces;
- g. Smelting, melting and refining furnaces (including pyrometallurgical devices such as cupolas, reverberator furnaces, sintering machines, roasters, and foundry furnaces);
- h. Titanium dioxide chloride process oxidation reactors
- i. Methane reforming furnaces;
- j. Pulping liquor recovery furnaces;
- k. Combustion devices used in the recovery of sulfur values from spent sulfuric acid; and,
- l. Such other devices as the Department may determine on a case-by-case basis using one or more of the following factors:
 - i. The design and use of the device primarily to accomplish recovery of material products;
 - ii. The use of the device to burn or reduce raw materials to make a material product;
 - iii. The use of the device to burn or reduce secondary materials as effective substitutes for raw materials, in processes using raw materials as principal feedstocks;

iv. The use of the device to burn or reduce secondary materials as ingredients in an industrial process to make a material product;

v. The use of the device in common industrial practice to produce a material product; and,

vi. Other factors, as appropriate.

13. "Industrial solid waste" means solid waste generated by manufacturing or industrial processes that is not a hazardous waste regulated under subtitle C of RCRA. Such waste may include, but is not limited to, waste resulting from the following manufacturing processes: Electric power generation; fertilizer/agricultural chemicals; food and related products/by-products; inorganic chemicals; iron and steel manufacturing, leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment. This term does not include mining waste or oil and gas waste.

14. "Local government" means a county, any municipality located wholly or partly within the county, and any other political subdivision located wholly or partly within the county when such political subdivision provides solid waste management services.

15. "Medical waste," for the purposes of this regulations, means infectious waste as defined in South Carolina Infectious Waste Management Regulation 61-105.E.

16. "Permit" means the process by which the Department can ensure cognizance of, as well as control over, the management of solid wastes.

17. "Putrescible wastes" means solid waste that will rapidly decompose with the potential to cause odor and attract vectors.

18. "Pyrolysis" means the chemical decomposition of a material by heat in the absence of oxygen.

19. "Recovered materials" mean those materials which have known use, reuse, or recycling potential; can be feasibly used, reused, or recycled; and have been diverted or removed from the solid waste stream for sale, use, reuse, or recycling, whether or not requiring subsequent separation and processing, but does not include materials when recycled or transferred to a different site for recycling in an amount which does not equal at least seventy-five percent (75%) by weight of materials received during the previous calendar year.

20. "Refuse Derived Fuel (RDF)," for the purpose of this regulation, means a type of fuel produced from solid waste by separating some, or all, of the noncombustible from the combustible portions, shredding and classifying the waste by size. This includes all classes of RDF including low-density fluff RDF through densified RDF and pelletized RDF.

21. "Region" means a group of counties in South Carolina which is planning to or has prepared, approved, and submitted a regional solid waste management plan to the Department pursuant to Section 44-96-80.

22. "Residential solid waste" means solid waste (including garbage, trash, and sanitary waste from

septic tanks) derived from households (including single and multiple residences.)

23. "Solid waste" means any garbage, refuse, or sludge from a waste treatment facility, water supply plant, or air pollution control facility and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations and from community activities. This term does not include solid or dissolved material in domestic sewage, recovered materials, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to NPDES permits under the Federal Water Pollution Control Act, as amended, or the Pollution Control Act of South Carolina, as amended, or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1964, as amended. Also excluded from this definition are application of fertilizer and animal manure during normal agricultural operations or refuse as defined and regulated pursuant to the South Carolina Mining Act, including processed mineral waste, which will not have a significant adverse impact on the environment.

24. "Solid waste management" means the systematic control of the generation, collection, source separation, storage, transportation, treatment, recovery, and disposal of solid waste.

25. "Solid waste management facility" means any solid waste disposal area, volume reduction plant, transfer station, or other facility, the purpose of which is the storage, collection, transportation, treatment, utilization, processing, recycling, or disposal, or any combination thereof, of solid waste. The term does not include a recovered materials processing facility or facilities which use or ship recovered materials, except that portion of the facilities which is managing solid waste.

26. "Special waste" means nonresidential and commercial solid wastes, other than regulated hazardous wastes, that are either difficult or dangerous to handle and require unusual management, including, but not limited to, those waste contained in Code Section 44-96-390(A).

27. "Vector" means a carrier that is capable of transmitting a pathogen from one organism to another including, but not limited to, flies and other insects, rodents, birds, and vermin.

28. "Waste-to-energy facility," for the purposes of this regulation, means a facility that uses an enclosed device using controlled combustion to thermally break down solid, liquid, or gaseous combustible solid waste to an ash residue that contains little or no combustible material and that produces electricity, steam, or other energy as a result. The term does not include facilities that primarily burn fuels other than solid waste even if such facilities also burn some solid waste as a fuel supplement. The term also does not include facilities that burn vegetative, agricultural, or silvicultural wastes, clean dry wood, methane or other landfill gas, wood fuel derived from construction or demolition debris, or waste tires, alone or in combination with fossil fuels.

C. General Provisions.

1. Incineration facilities shall be consistent with the State and host Region/County Solid Waste Management Plans. Prior to the issuance of a permit for a new or expanded facility, the Department shall approve an allowable capacity based on the Region/County Solid Waste Management Plans, the facility's design capacity, and the following criteria:

(a) No solid waste incinerator facility with a daily capacity in excess of six hundred (600) tons shall be permitted within the State. Any incinerator permitted by the Department prior to May 27, 1991, i.e., the effective date of the Solid Waste Policy and Management Act, is exempt from this tonnage limit and shall adhere to the facility's permitted tonnage limit; and,

(b) No solid waste incinerator facility with a daily capacity in excess of one hundred (100) tons shall be permitted to be sited within three (3) miles of another such facility.

2. The siting, design, construction, operation, closure, and post-closure activities of new or expanding solid waste incineration facilities shall conform to the standards set forth in this regulation and the facility's permit.

3. A permit obtained from the Department pursuant to these regulations, does not exempt the incineration facility from the necessity of obtaining other Department required permits (e.g. air quality, water pollution control).

4. No person owning or operating an incineration facility shall cause, suffer, allow, or permit the handling of regulated hazardous wastes or regulated infectious wastes at the incineration facility, unless the facility is specifically permitted for such wastes.

5. Within six (6) months of the effective date of this regulation, all owners and/or operators of existing solid waste incineration facilities, which are not currently permitted, shall submit to the Department, plans and specifications in accordance with Section D. below for upgrading the existing facility to meet the design requirements established in this regulation.

6. Within twelve (12) months of the effective date of this regulation, existing solid waste incineration facilities, which are not currently permitted, shall conform with the standards as set forth in this regulation, unless otherwise approved by the Department. Monitoring and reporting requirements shall commence on the effective date of this regulation.

7. The Department shall require a disclosure statement from the permit applicant in accordance with Code Section 44-96-300. Local governments and regions comprised of local governments are exempt from this requirement. The Department may accept one (1) disclosure statement for multiple facility permit applicants.

8. A permit shall be required for each site or facility although the Department may include one or more different types of facilities in a single permit if the facilities are collocated on the same site.

9. Construction of an incinerator shall not be initiated until all required approvals are obtained.

10. The permittee of a solid waste incineration facility shall notify the Department prior to transfer of ownership or operation of the facility during its operating life or during the post-closure care period. The Department will approve a reissuance of the permit to the new owner provided that the facility is in compliance and the new owner agrees in writing to assume responsibility in accordance with these regulations.

11. Facilities that have a valid Department permit for managing hazardous or infectious waste, may request to be exempted from certain portions of this regulation.

D. Permit Application Requirements.

1. Prior to the construction, modification, or operation of a solid waste incineration facility, a permit shall be obtained from the Department pursuant to these regulations. The application shall be signed by an engineer duly licensed and registered under the laws of the State of South Carolina.

2. Any person wishing to obtain a permit pursuant to these regulations, from the Department to operate a solid waste incineration facility, shall submit to the Department, three (3) copies of the following documents:

- a. A completed permit application, on a form provided by the Department;
- b. An engineering report which shall include the following:
 - (1) An overall description of the facility;
 - (2) A description of the process and equipment to be used;
 - (3) A description of the area and proposed population which will be served by the facility;
 - (4) A description of the types and quantities of solid waste to be accepted;
 - (5) A description of the existing site. Any existing site conditions that will be utilized during the operation of the proposed incinerator shall be identified as existing on the plan including, but not limited to, structures, access roads, on-site roads, parking areas, loading and unloading areas, fences, and gates;
 - (6) A description of the security measures, including, but not limited to fences, gates, and signs;
 - (7) The location of storage areas for incoming waste, incinerator ash, precipitator waste, and other non-combustible waste generated by the incinerator;
 - (8) A description of any re-use or recycling planned for the ash residue; and,
 - (9) An identification of the ultimate disposal location for all facility-generated waste residues including, but not limited to, ash residues, and non-combustible waste, and the proposed alternate disposal locations for any unauthorized waste types, which may have been unknowingly accepted;
- c. Complete engineering plans and specifications that, at a minimum, address the items listed below. Permanently located air curtain incinerators are exempt from item (7) below.
 - (1) A map showing the specific location, land use, and zoning within one-fourth (3) mile of the boundaries of the proposed facility;

(2) Drawings of buildings and other structures, on a scale no greater than one (1) foot per quarter inch, showing types of construction, layout, and dimensions for unloading, storage, and processing areas;

(3) A site plan, on a scale of not greater than two hundred (200) feet per inch, designating the property boundaries and all existing and proposed structures and access roads;

(4) Weighing of all solid waste to be accepted at the facility;

(5) Storage areas for incoming solid waste and out-going ash;

(6) Detailed engineering plans and specifications for the incinerator and other related machinery; and,

(7) Detailed engineering plans and specifications for leachate control and related equipment;

d. A complete description of the personnel training program that meets the requirements of Section I of this regulation;

e. An ash management plan that at a minimum addresses the following:

(1) Identification of the facility approved by the Department that will receive the residue; and,

(2) A certification that the facility shall have adequate capacity to handle such residue;

f. A description of the air quality monitoring plan;

g. A description of the manner in which waste waters, if any, from the facility will be managed;

h. A quality assurance and quality control report. The facility owner or operator shall institute a control program (including measures such as signs, monitoring, alternate collection programs, passage of local laws, etc.) to assure that only solid waste authorized by the Department is being processed at the facility;

i. A written contingency plan which describes a technically and financially feasible course of action to be taken in response to contingencies during the construction and/or operation of the facility. The contingency plan shall be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous constituents to air, soil, or surface water;

j. A narrative description of the general operating plan for the facility, including the origin, composition and weight of solid waste that is to be processed at the facility, the process to be used at the facility, the daily operational methodology of the process, the loading rate, the proposed capacity of the facility and the expected life of the facility. The plan shall include a descriptive statement of any materials recycling or reclamation activities to be operated in conjunction with the facility, either on the incoming

solid waste or the out-going residue. The plan shall describe how the facility will meet all applicable regulatory requirements;

k. An operation and maintenance manual describing how the facility shall be maintained and operated in accordance with the intended use and permit of the facility. The manual shall include, but not be limited to, the following:

(1) A description of the proposed procedures for the operation of each major facility component;

(2) Procedures to be followed during startup and scheduled and unscheduled shutdown of operations;

(3) Identification of the operating variables for the process and any control devices used to detect a malfunction or failure, the normal range of these variables, and a description of the method of monitoring; and the sequence of responsible action in the event that the equipment and instruments exceed normal operating ranges;

(4) Methods and schedules to check operation of control equipment and instrumentation, including a list of all equipment and instruments requiring calibration and a schedule of proposed calibration intervals. All process instruments shall be calibrated no less than once per year. Process control instruments shall be maintained in an operable condition;

(5) A description of the proposed measures to control dust, noise, litter, odor, rodents and insects at the facility;

(6) An inventory and location of all facility records and as-built drawings; and,

(7) An estimate of the type, quantity, and on-site storage of fuels needed for the facility;

l. A detailed closure plan which shall identify the steps necessary to close the facility. The plan may be amended at any time during the active life of the facility with Department approval. The plan shall be amended whenever changes in operating plans or facility design affect the closure plan, or whenever there is a change in the expected year of closure; and,

m. A demonstration of financial responsibility. The owner or operator of each facility shall establish sufficient financial assurance acceptable to the Department to ensure satisfactory maintenance, closure, and post-closure of the facility; or to carry out any corrective action which may be required as a condition of a permit. Consideration shall be given to mechanisms which would provide flexibility to the owner or operator in meeting its financial obligations. The owner or operator shall be allowed to use combined financial responsibility mechanisms for a single facility and shall be allowed to use combined financial responsibility mechanisms for multiple facilities, utilizing actuarially sound risk-spreading techniques. Local governments are exempt from this requirement until such time as federal regulations require local governments or regions to demonstrate financial responsibilities for such facilities and the Department promulgates regulations addressing this issue.

n. A waste control plan that, at a minimum, addresses the items outlined below. Facilities that receive only municipal solid waste, and permanently located air curtain incinerators are exempt from items (2)(a) & (b) below.

(1) Waste approval procedures for making the determination of whether to approve or refuse proposed waste streams;

(2) Waste screening procedures and a time frame for making the determination of whether to accept or reject shipments of incoming waste streams to include procedures for:

(a) Verifying that the profile sheets provided by the generators match all shipped containers; and,

(b) Conducting extended verification testing on each shipment of incoming waste;

(3) Waste disposal procedures for the proper handling, storage, and disposal of all unauthorized wastes; and,

(4) Record keeping procedures for maintaining documentation related to the acceptance, rejection, storage, operational data, and proper disposal of all wastes received by the facility. Records shall be maintained for a minimum of five (5) years and shall be made available to the Department upon request.

E. Design Requirements. Design requirements addressed in this section apply to all solid waste incineration facilities, unless otherwise approved by the Department. Permanently located air curtain incinerators shall comply with items 1 through 9 and item 14.b.(3) & (4) of this section.

1. Solid waste incineration facilities shall be adjacent to or have direct access to roads which are of all weather construction and capable of withstanding anticipated load limits.

2. Solid waste incineration facilities shall not be located within the 100-year floodplain.

3. The active waste handling area of a solid waste incineration facility shall not be located within five hundred (500) feet of any surface water.

4. Solid waste incineration facilities shall comply with the U. S. Army Corps of Engineers and the U. S. Environmental Protection Agency requirements concerning wetlands.

5. The active waste handling area of a solid waste incineration facility, shall not extend closer than five hundred (500) feet to any drinking water well. Permanently located air curtain incinerators shall not extend closer than one hundred (100) feet to any drinking water well.

6. Locations shall allow for sufficient room to minimize traffic congestion and allow for safe operation.

7. No solid waste incineration facility shall extend closer than one hundred (100) feet to any property line.

8. The active waste handling area of a solid waste incineration facility, shall not extend closer than one thousand (1000) feet to residences, schools, day-care centers, hospitals or recreational park areas. Permanently located air curtain incinerators shall not extend closer than five hundred (500) feet to residences, schools, day-care centers, hospitals or recreational park areas.

9. Solid waste incineration facilities shall adhere to all Federal and State rules and regulations and all local zoning, land use and other applicable local ordinances.

10. The tipping, loading and unloading areas shall be:

- a. Constructed with a minimum slope of 1%;
- b. Constructed of impervious materials, e.g., asphalt, concrete;
- c. Provided with a water supply for storage and transfer area cleaning purposes; and,
- d. Equipped with drains, pumps, or equivalent means to facilitate the removal of water for proper disposal.

11. The transfer structures, buildings, and ramps shall be constructed of materials that can be easily cleaned.

12. The solid waste storage area and tipping area must include fire detection and protection equipment.

13. Leachate and washwater from a solid waste incineration facility shall not be allowed to drain or discharge into waters of the State unless an effluent disposal permit (e.g. land application or NPDES) is approved by the Department.

14. Emergency preparedness. In addition to requirements set forth in the contingency plan, all solid waste incineration facilities shall at a minimum:

- a. Provide adequate aisle space to allow for emergency equipment;
- b. Be equipped with the following:
 - (1) An internal communications system capable of providing immediate emergency instruction to facility personnel and an alarm system to notify facility personnel of an emergency condition;
 - (2) A device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, and State or local emergency response teams;
 - (3) Portable fire extinguishers, fire control equipment and spill control equipment; and,

(4) Water available at adequate volume and pressure to supply water hose streams, automatic sprinklers, or water spray systems.

F. Operations Criteria. A solid waste incineration facility shall be designed and operated according to the minimum criteria listed in this section, unless otherwise approved by the Department. Permanently located air curtain incinerators shall comply with the following criteria except items 2., 3., & 9.

1. All incinerators shall be operated in a manner so as to prevent the creation of a public health nuisance or potential health hazard. Litter, odors, rats, insects, flies, mosquitos, and other vectors shall be controlled at the facility.

2. All solid waste containing putrescible wastes shall be processed within seventy-two (72) hours of receipt unless an exemption is requested and approved by the Department in the facility's general operating plan.

3. All solid waste containing putrescible wastes that will not be processed on site shall be transferred to a permitted disposal facility within seventy-two (72) hours of its receipt.

4. Prior to initial operation of a new incinerator, the Department shall be notified so that an inspection may be made of the facility to determine conformance with the approved plans.

5. The incinerator facility shall be operated and maintained so as to minimize interference with other activities in the area.

6. Access Controls. The operator shall restrict the presence of, and shall minimize the possibility for any unauthorized entry onto the facility. A statement of the days and hours of operation shall be posted at the entrance of the facility and access, except for Department and/or emergency personnel, shall be limited to those times when authorized personnel are on duty.

7. Receipt and Handling of Solid Waste.

a. The facility is authorized to process only solid waste authorized by Department permit. The weight of all solid waste received at the facility shall be recorded and incorporated into the quarterly report.

b. Outside storage and/or processing of putrescible waste is prohibited.

c. Unauthorized or untreatable solid waste may be temporarily stored on the premises for a period not to exceed one week; the facility may request an exemption to the one week limit to be incorporated in its general operating plan. The facility must ensure that waste does not create a nuisance or a sanitary or environmental problem.

d. Incompatible wastes shall be segregated so as not to create a fire hazard.

8. Process changes. The owner or operator shall receive approval from all appropriate Department program areas in writing of all process changes before they are implemented. Permit modifications shall be required as deemed necessary by the Department.

9. Emergency preparedness.

a. All solid waste incineration facilities shall at a minimum:

(1) Test and maintain as necessary to assure its proper operations, all facility emergency equipment including, but not limited to, communications or alarm systems, fire protection equipment, spill control equipment, and personal safety equipment;

(2) Provide immediate access for all personnel involved in the facility operation to an internal alarm or emergency communication device; and,

(3) Provide for an emergency coordinator.

b. The contingency plan shall be implemented immediately whenever there is a fire, explosion, or release of hazardous constituents which could threaten human health or the environment, and the Department immediately notified using the 24-hour number 803-253-6488.

c. Any unscheduled shutdown that exceeds twenty-four (24) hours shall be reported to the Department's District Director of the district in which the facility is located.

10. Guidelines shall be established for identifying any items or materials that shall be removed prior to the incineration process.

11. Trained personnel shall be present at all times during the operation of the facility.

G. Monitoring and Reporting Requirements. Permanently located air curtain incinerators are exempted from the requirements of this section except item 2.

1. Should the Department confirm potential environmental and/or health problems associated with the facility, monitoring (including groundwater, surface water, and air quality) may be required by the Department, as appropriate, and based on a case-by-case evaluation to ensure protection of the environment.

2. An annual report, on a form provided by, or acceptable to, the Department, shall be submitted to the Department by October 15 for the previous fiscal year (July 1 through June 30,) which includes at a minimum, the following information:

a. Type (i.e., residential, medical, commercial, industrial, special, and other) and total quantity in tons of solid waste received at the facility for the previous fiscal year;

b. The county in South Carolina in which the solid waste originated, or the State if the waste originated outside South Carolina;

c. The transfer station, if applicable; and,

d. A description of the method and quantities of the distribution and/or disposal of the solid waste, ash, and non-acceptable waste transported off-site for disposal or reuse or recycling.

3. A report containing the following information for ash residue sampling and analyses as outlined in Section J of this regulation, shall be submitted to the Department within sixty (60) days of sample collection:

- a. The date and place of sampling and analysis;
- b. The names of the individuals who performed the sampling and analysis;
- c. The sampling and analytical methods utilized;
- d. The results of such sampling and analyses; and,
- e. The signature and certification of the report by an appropriate authorized agent for the facility.

4. Upon implementation of the contingency plan, the owner or operator shall immediately notify the Department (using the 24-hour number 803-253-6488) and note, in the operating record and the annual report, the time, date, and details of the incident. Upon request, a written report shall be submitted to the Department that includes the following information:

- a. The name, address and telephone number of the operator and the facility;
- b. The date, time and type of incident (e.g., fire, explosion, etc.);
- c. The type and quantity of materials involved;
- d. The extent of injuries, if any;
- e. An assessment of actual or potential hazards to human health or the environment, where this is applicable;
- f. The estimated quantity and disposition of solid waste, liquids, or material recovered that resulted from the incident; and,
- g. The procedures or equipment available to prevent a recurrence of the reported event.

5. Records of all monitoring and reporting information, pursuant to these regulations, shall be maintained for a minimum of at least five (5) years from the sample or measurement date, unless otherwise specified by the Department. These reports shall be made available to Department personnel upon request.

H. Closure and Post-Closure Procedures.

- 1. Financial Assurance. Facilities shall fund a financial responsibility mechanism acceptable to the

Department to ensure the satisfactory maintenance, closure and post-closure care prior to accepting waste. A final closure cost estimate, based on third party costs to complete closure by disposing of the maximum quantity of material at a facility shall be calculated annually and adjusted annually, if necessary.

Local governments are exempt from this requirement until such time as federal regulations require such local governments or regions to demonstrate financial responsibility for such facilities and the Department promulgates regulations addressing this issue.

2. Closure and Post-Closure Care Procedures. Closure and post-closure procedures addressed in this section apply to all solid waste incineration facilities.

a. At least sixty (60) days prior to closure, provide written notice of intent to close and a proposed closure date to the Department. The final quantity of solid waste shall be received no less than thirty (30) days prior to closure date.

b. Upon closing, the owner or operator shall immediately post signs at the facility which state that the facility is no longer in operation.

c. Within thirty (30) days after receiving the final quantity of solid waste, the owner or operator shall remove all solid waste and shall remove or treat all waste residues, contaminated soils and equipment in accordance with the approved closure plan, and notify the Department upon completion.

d. After receiving notification that the facility closure is complete, the Department will conduct an inspection of the facility. If all procedures have been correctly completed, the Department will approve the closure in writing, at which time the Department permit shall be terminated.

e. If the owner or operator demonstrates that not all contaminated soils can be practicably removed or treated as required in paragraph (b) of this section, then the owner or operator shall submit for Department approval, a post-closure care plan.

I. Personnel Training Requirements. Solid waste incineration facility personnel training programs pursuant to these regulations, shall at a minimum:

1. Identify the positions which will require training and a knowledge of the procedures, equipment, and processes at the facility;

2. Describe how facility personnel will be trained to perform their duties in a way that ensures the facility's compliance with these regulations, including the proper procedures that shall be followed in the processing and handling of solid waste not authorized by the Department to be received at the facility;

3. Be designed to ensure that facility personnel are able to respond effectively to all emergencies, including different types of fires, by familiarizing them with the contingency plan, emergency and safety equipment, emergency procedures and emergency systems; and,

4. Documentation of training. The following records of training shall be maintained at the facility:

a. The job title for each position at the facility related to solid waste management and the name

of the employee filling each job;

b. A written job description for each position listed under paragraph 4.a. of this section. This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company location or unit, but must include the requisite skill, education, or other qualifications, and duties of employees assigned to each position;

c. A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed under paragraph 4.a. of this section; and,

d. Records that document the training or job experience required under this section that has been given to, and completed by, facility personnel.

5. Training records on current personnel shall be kept until closure of the facility; training records on former employees shall be kept for at least three years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company.

J. Ash Residue Requirements. Permanently located air curtain incinerators are exempt from the requirements of this section. However, the ash from these facilities shall be properly disposed immediately after removal from the incinerator.

1. Sampling and Analysis Requirements and Procedures.

a. Ash residue generated by a solid waste incinerator shall be sampled and analyzed according to the current Environmental Protection Agency (EPA) acceptable methodology for determining the hazardous nature of the ash being disposed.

b. The required analyses of all residual ash, shall be performed in accordance with the conditions of the solid waste management facility permit and current solid waste management regulations. The analyses shall be performed separately on the bottom ash and the fly ash, unless the bottom ash and fly ash are combined, in which case the combined ash shall be sampled and analyzed.

c. At a minimum, the ash residue at a new incineration facility shall be sampled and analyzed:

- (1) Prior to the initial disposal of ash from the facility;
- (2) Monthly for the first six (6) months of incineration operations at the facility;
- (3) Semi-annually during the remaining life of the facility; and,
- (4) At any time there is a change in the waste stream being incinerated.

d. At a minimum, the ash residue at an existing incineration facility shall be sampled and analyzed semi-annually.

e. If the Department deems necessary, more stringent sampling and analysis may be required.

f. A sampling and analysis plan shall be submitted to and approved by the Department, along with the ash residue management plan that identifies both the sample collection and analytical protocols that must be used to obtain representative samples of ash residue.

g. All analyses performed pursuant to this section shall be conducted by a laboratory certified by the Department.

h. The results of all such analyses shall be submitted to the Department no later than 60 (sixty) days after testing. Records shall be maintained at the facility for a period not less than five (5) years, and be available to Department personnel upon request.

2. Contents of the Ash Management Plan.

a. Prior to the construction and/or operation of a solid waste incinerator, an ash residue management plan shall be submitted to and approved by the Department.

b. The ash residue management plan shall describe the methods, equipment, and structures necessary to prevent the uncontrolled dispersion of ash residue considering potential pathways of human or environmental exposure including, but not limited to, inhalation, direct contact, and potential for groundwater and surface water contamination.

c. The ash residue management plan shall address the handling, storage, transportation, treatment, and disposal or reuse or recycling of ash residue as described in this section.

d. Handling. The owner and/or operator shall design, construct, operate, and maintain ash handling systems that ensure that ash residue (whether bottom ash, fly ash or combined ash) is properly wetted or contained to ensure that dust emissions are controlled during on-site and off-site storage, loading, transport, and unloading. The ash residue shall be wet enough so the surface of the ash remains damp after unloading at a landfill.

e. Storage.

(1) The owner and/or operator shall provide sufficient on-site ash residue storage capacity to ensure that facility operations continue during short term interruptions of ash residue transportation and/or disposal. The quantity of residue stored on-site shall be limited to no more than seven (7) times the daily design output.

(2) Residue stored on-site may be either:

(a) Stored in watertight, leak resistant containers located inside a building or enclosed structure. Prior to storage, free liquid shall be allowed to drain from the ash residue. Liquid drained during this process shall be collected and disposed in an approved waste water disposal system. Loaded containers may be stored outside of a building or enclosed structure if all free-liquid has been drained and the container is sealed and covered to prevent rain water infiltration or airborne emissions; or,

(b) Stored on-site in a waste pile which is located in an enclosed structure. The residue shall be placed on an impermeable base. A runoff management system shall be provided to collect and control the free liquid that is allowed to drain from the ash residue.

f. Transportation. Ash residue shall be drained of free liquid prior to transport. Ash residue transportation containers or vehicles shall be watertight and leak resistant and shall be designed and constructed such that any closures at or near the bottom are sealed to prevent leakage under normal transportation conditions. Closures shall be fitted with gaskets or materials that will not be deteriorated by the ash. The transport vehicle shall be enclosed or covered to prevent the top surface of the load from becoming dried. Provisions shall be made to wash vehicle tires and/or body to prevent ash from tracking onto roadways.

g. Disposal. Disposal of all ash generated by the facility shall be in accordance with standards set forth by Department regulations.

h. Reuse or Recycling. This section applies to ash residue in the form of bottom ash only, fly ash only, or combined ash that is proposed to be reused or recycled as an ingredient or as a substitute for a raw material.

(1) The owner and/or operator shall demonstrate to the Department's satisfaction that the resulting material: has a known market or disposition; and, that contractual arrangements have been made with a second person for use as an ingredient in a production process and that this person has the necessary equipment to do so.

(2) The owner and/or operator shall also:

(a) Chemically and physically characterize the ash residue and each finished product or products and identify the quantity and quality to be marketed;

(b) Describe the proposed method of application or use, available markets and marketing agreements;

(c) Demonstrate that the intended use will not adversely affect the public health, safety, welfare and the environment;

(d) If the use of the ash residue includes the mixing with different types of materials, a description of each product mixture shall be provided; and,

(e) Provide the Department with a copy of any information regarding the reuse or recycling of ash residue.

(3) The reuse or recycling of ash residue does not relieve the owner and/or operator from compliance with other monitoring requirements specified in this regulation.

K. Corrective Action Requirements. If at any time, the Department determines that the solid waste incineration facility poses an actual or potential threat to human health or the environment, the owner or operator shall implement a corrective action program reviewed and approved by the Department.

L. Violations and Penalties. A violation of this regulation or any permit, order, or standard subjects the person to the issuance of a Department order, or to civil or criminal enforcement action in accordance with Code Section 44-96-450. A person to whom an order is issued may appeal it as a contested case in accordance with R.61-72 and the Administrative Procedures Act.

M. Permit Review. A permit issued pursuant to this regulation shall be effective for the design and operational life of the facility, to be determined by the Department. At least once every five (5) years, the Department will review the environmental compliance history of each permitted solid waste incineration facility.

1. If, upon review, the Department finds that material or substantial violations of the permit issued pursuant to these regulations, demonstrate the permittee's disregard for, or inability to comply with applicable laws, regulations, or requirements and would make continuation of the permit not in the best interests of human health and safety or the environment, the Department may, after a hearing, amend or revoke the permit, as appropriate and necessary. When a permit is reviewed, the Department shall include additional limitations, standards, or conditions when the technical limitations, standards, or regulations on which the original permit was based have been changed by statute or amended by

regulation.

2. The Department may amend or attach conditions to a permit when:

- a. There is significant change in the manner and scope of operation which may require new or additional permit conditions or safeguards to protect human health and safety and the environment;
- b. The investigation has shown the need for additional equipment, construction, procedures, and testing to ensure the protection of human health and safety and the environment; and,
- c. The amendment is necessary to meet changes in applicable regulatory requirements.

N. Severability. Should any section, paragraph, sentence, clause or phrase of this regulation be declared unconstitutional or invalid for any reason, the remainder of this regulation shall not be affected thereby.

61-107.13. Solid Waste Management: Municipal Solid Waste Incinerator Ash Landfills

SUBPART A - GENERAL PROVISIONS

13.1. PURPOSE, SCOPE, AND APPLICABILITY

- a. The purpose of this regulation is to establish minimum criteria under the South Carolina Solid Waste Policy and Management Act of 1991, as amended, for all municipal solid waste incinerator ash landfill (MSWIALF) units. These minimum criteria ensure the protection of human health and the environment.
- b. These regulations apply to owners and operators of new MSWIALF units, existing MSWIALF units, and lateral expansions, except as otherwise specifically provided in this regulation.
- c. MSWIALF units that receive waste after October 9, 1991 but stop receiving waste prior to the effective date of these regulations are exempt from the requirements of this part 13, with the exception of the closure criteria in 13.60 and post-closure care requirements in section 13.61. The final cover must be installed within six months of last receipt of wastes. Owners or operators of MSWIALF units described in this paragraph that fail to complete cover installation within this six (6) month period will be subject to all the requirements of this part 13, unless otherwise specified.
- d. All MSWIALF units that receive waste on or after the effective date of these regulations must comply with all requirements of this regulation unless otherwise specified.
- e. These regulations become effective six (6) months after publication in the State Register.
- f. No facility for the disposal of municipal solid waste incinerator ash shall be operated in the State of South Carolina without first obtaining a written permit from the South Carolina Department of Health and Environmental Control.

g. A MSWIALF unit may be used for the co-disposal of municipal solid waste and municipal solid waste incinerator ash if the unit meets all applicable regulations and requirements for municipal solid waste landfill units and this regulation.

13.2. DEFINITIONS

a. "Active life" means the period of operation beginning with the initial receipt of ash and ending at completion of closure activities in accordance with 13.60 of this part.

b. "Active portion" means that part of a facility or unit that has received or is receiving ash and that has not been closed in accordance with 13.60 of this part.

c. "Areas of complex hydrogeology" typically include, but are not limited to, karst terrane; fractured rock formations (joints and faults; excludes healed fractures) irregularly stratified geologic deposits (e.g., certain fluvial, deltaic and barrier island deposits); mixed hydrogeologic regimes (e.g., sedimentary deposits overlying fractured crystalline bedrock); folded areas where flow paths may be contorted, and recharge zones where background water quality cannot be determined.

d. "Aquifer" means a geological formation, group of formations, or portion of a formation capable of yielding significant quantities of groundwater to wells or springs.

e. "Ash" means the solid residue from the incineration of solid wastes.

f. "Class GA groundwater" is defined in the South Carolina Water Classifications and Standards, R.61-68, as those groundwaters that are characterized by either of the following factors: the groundwater is irreplaceable because no reasonable alternative source of drinking water is available to substantial populations, or the groundwater is ecologically vital because it provides the base flow for a particularly sensitive ecological system that, if polluted, would destroy a unique habitat.

g. "Commercial solid waste" means all types of solid waste generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding residential and industrial wastes.

h. "Department" means the South Carolina Department of Health and Environmental Control.

i. "Double geomembrane liner" means a liner which shall consist of the following layers from bottom to top:

- (1) a properly graded and prepared subbase;
- (2) a minimum 60 mil HDPE geomembrane secondary liner;
- (3) a secondary leachate collection system;
- (4) an approved bentonite mat or equivalent;
- (5) a geomembrane primary liner; and

(6) a primary leachate collection system

j. "Existing MSWIALF unit" means any municipal solid waste incinerator ash landfill unit that is receiving solid waste as of the effective date of this regulation. Waste placement in existing units must be consistent with past operating practices or modified practices to ensure good management.

k. "Facility" means all contiguous land and structures, other appurtenances, and improvements on the land used for the disposal of ash.

l. "Groundwater" means water below the land surface in a zone of saturation.

m. "High water table" means the highest water levels measured in on-site monitoring wells for a period consisting of four (4) consecutive quarters.

n. "Household waste" means any solid waste (including garbage, trash, and sanitary waste in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas).

o. "Industrial solid waste" means solid waste generated by manufacturing or industrial processes that is not a hazardous waste regulated under subtitle C of RCRA. Such waste may include, but is not limited to, waste resulting from the following manufacturing processes: Electric power generation; fertilizer/agricultural chemicals; food and related products/by-products; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment. This term does not include mining waste or oil and gas waste.

p. "Lateral expansion" means a horizontal expansion of the waste boundaries of an existing MSWIALF unit.

q. "Leachate" means a liquid that has passed through or emerged from solid waste and contains soluble, suspended, or miscible materials removed from such waste.

r. "Municipal solid waste incinerator" means any solid waste incinerator, publicly or privately owned, that receives household waste. Such incinerator may receive other types of solid waste such as commercial or industrial waste.

s. "Municipal solid waste incinerator ash landfill unit" means a discrete area of land or an excavation that receives ash, and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined under 257.2. Such a landfill may be publicly or privately owned. A MSWIALF unit may be a new MSWIALF unit, an existing MSWIALF unit or a lateral expansion.

t. "New MSWIALF unit" means any municipal solid waste incinerator ash landfill unit that has not received waste prior to the effective date of this regulation.

u. "Open burning" means the combustion of solid waste without:

- (1) Control of combustion air to maintain adequate temperature for efficient combustion,
 - (2) Containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and
 - (3) Control of the emission of the combustion products.
- v. "Operator" means any person, including the owner, who is principally engaged in, or is in charge of, the actual operation, supervision, and maintenance of a solid waste management facility and includes the person in charge of a shift or period during any part of the day.
- w. "Owner" means the person(s) who owns a facility or part of a facility.
- x. "Perennial stream" means a stream or reach of a stream that flows continuously throughout the year and whose upper surface generally stands lower than the water table in the region adjoining the stream.
- y. "Recharge area" for a particular aquifer is defined as areas where water enters the aquifer through downward migration. Principal examples include: outcrop areas of a particular aquifer where the potentiometric head within the unit decreases with depth; and, in the subsurface, where the potentiometric head relationship and leakage factors across any confining unit allow for downward flow into other aquifer systems.
- z. "Run-off" means any rainwater, leachate, or other liquid that drains over land from any part of a facility.
- aa. "Run-on" means any rainwater, leachate, or other liquid that drains over land onto any part of a facility.
 - bb. "Saturated zone" means that part of the earth's crust in which all voids are filled with water.
 - cc. "Sludge" means any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant.
 - dd. "Sole source aquifer" is defined as specified in the Federal Safe Drinking Water Act.
 - ee. "Solid waste" means any garbage, or refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved materials in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges that are point sources subject to permit under 33 U.S.C. 1342, or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923).
 - ff. "State" means the State of South Carolina.

gg. "Structural integrity" means the ability of a unit to withstand physical forces exerted upon designed components, appurtenances, and containment structures (e.g., liners, dikes) of the unit.

hh. "Uppermost aquifer" means the geologic formation nearest the natural ground surface that is an aquifer, as well as, lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary.

ii. "Vertical expansion" means an expansion of an existing waste management unit above previously permitted elevations for the purposes of gaining additional capacity.

jj. "Waste management unit boundary" means a vertical surface located at the hydraulically downgradient limit of the unit. This vertical surface extends down into the uppermost aquifer.

13.3. CONSIDERATION OF OTHER FEDERAL LAWS

The owner or operator of a municipal solid waste incinerator ash landfill unit must comply with any other applicable Federal rules, laws, regulations, or other requirements.

13.4. - 13.9. [Reserved]

SUBPART B - LOCATION RESTRICTIONS

13.10. [Reserved]

13.11. FLOODPLAINS

a. Owners or operators of new MSWIALF units, existing MSWIALF units, and lateral expansions located in 100-year floodplains must demonstrate that the unit will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of ash so as to pose a hazard to human health and the environment. The owner or operator must place the demonstration in the operating record and notify the Department that it has been placed in the operating record.

b. For purposes of this section:

(1) "Floodplain" means the lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, that are inundated by the 100-year flood.

(2) "100-year flood" means a flood that has a 1-percent or greater chance of recurring in any given year or a flood of a magnitude equalled or exceeded once in one hundred (100) years on the average over a significantly long period.

(3) "Washout" means the carrying away of ash by waters of the base flood.

13.12. WETLANDS

a. New MSWIALF units and lateral expansions shall not be located in wetlands, unless the owner or operator can make the following demonstrations to the Department:

(1) Where applicable under section 404 of the Clean Water Act, or other applicable State wetlands laws, the presumption that a practicable alternative to the proposed landfill is available which does not involve wetlands is clearly rebutted:

(2) The construction and operation of the MSWIALF unit will not:

(a) Cause or contribute to violations of any applicable State water quality standard,

(b) Violate any applicable toxic effluent standard or prohibition under Section 307 of the Clean Water Act,

(c) Jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Endangered Species Act of 1973, and

(d) Violate any requirement under the Marine Protection, Research, and Sanctuaries Act of 1972 for the protection of a marine sanctuary.

(3) The MSWIALF unit will not cause or contribute to significant degradation of wetlands. The owner/operator must demonstrate the integrity of the MSWIALF unit and its ability to protect ecological resources by addressing the following factors:

(a) Erosion, stability, and migration potential of native wetland soils, muds and deposits used to support the MSWIALF unit;

(b) Erosion, stability, and migration potential of dredged and fill materials used to support the MSWIALF unit;

(c) The volume and chemical nature of the ash managed in the MSWIALF unit;

(d) Impacts on fish, wildlife, and other aquatic resources and their habitat from release of the ash;

(e) The potential effects of catastrophic release of ash to the wetland and the resulting impacts on the environment; and

(f) Any additional factors, as necessary, to demonstrate that ecological resources in the wetland are sufficiently protected.

(4) To the extent required under section 404 of the Clean Water Act, or other applicable State wetlands laws, steps have been taken to attempt to achieve no net loss of wetlands (as defined by acreage and function) by first avoiding impacts to wetlands to the maximum extent practicable as required by

paragraph a.(1) of this section, then minimizing unavoidable impacts to the maximum extent practicable, and finally offsetting remaining unavoidable wetland impacts through all appropriate and practicable compensatory mitigation actions (e.g., restoration of existing degraded wetlands or creation of man-made wetlands); and

(5) Sufficient information is available to make a reasonable determination with respect to these demonstrations.

b. For purposes of this section, *wetlands* means those areas that are defined in 40 CFR 232.2(r).

c. In lieu of the demonstration required by subsection (a) of this section, the applicant may submit proof that it has obtained the permits and/or authorizations required by all other state and federal laws and regulations applicable to the use of such wetlands.

13.13. FAULT AREAS

a. New MSWIALF units and lateral expansions shall not be located within two hundred (200) feet (60 meters) of a fault that has had displacement in Holocene time unless the owner or operator demonstrates to the Department that an alternative setback distance of less than two hundred (200) feet (60 meters) will prevent damage to the structural integrity of the MSWIALF unit and will be protective of human health and the environment.

b. For the purposes of this section:

(1) "Fault" means a fracture or a zone of fractures in any material along which strata on one side have been displaced with respect to that on the other side.

(2) "Displacement" means the relative movement of any two (2) sides of a fault measured in any direction.

(3) "Holocene" means the most recent epoch of the Quaternary period, extending from the end of the Pleistocene Epoch to the present.

13.14. SEISMIC IMPACT ZONES

a. New MSWIALF units and lateral expansions shall not be located in seismic impact zones, unless the owner or operator demonstrates to the Department that all containment structures, including liners, leachate collection systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site. The owner or operator must place the demonstration in the operating record and notify the Department that it has been placed in the operating record.

b. For the purposes of this section:

(1) "Seismic impact zone" means an area with a ten (10) percent or greater probability that the maximum horizontal acceleration in lithified earth material, expressed as a percentage of the earth's

gravitational pull (g), will exceed 0.10g in two hundred fifty (250) years.

(2) "Maximum horizontal acceleration in lithified earth material" means the maximum expected horizontal acceleration depicted on a seismic hazard map, with a ninety (90) percent or greater probability that the acceleration will not be exceeded in two hundred fifty (250) years, or the maximum expected horizontal acceleration based on a site-specific seismic risk assessment.

(3) "Lithified earth material" means all rock, including all naturally occurring and naturally formed aggregates or masses of minerals or small particles of older rock that formed by crystallization of magma or by induration of loose sediments. This term does not include man-made materials, such as fill, concrete, and asphalt, or unconsolidated earth materials, soil, or regolith lying at or near the earth surface.

13.15. UNSTABLE AREAS

a. Owners or operators of new MSWIALF units, existing MSWIALF units, and lateral expansions located in an unstable area must demonstrate that engineering measures have been incorporated into the MSWIALF unit's design to ensure that the integrity of the structural components of the MSWIALF unit will not be disrupted. The owner or operator must place the demonstration in the operating record and notify the Department that it has been placed in the operating record. The owner or operator must consider the following factors, at a minimum, when determining whether an area is unstable:

- (1) On-site or local soil conditions that may result in significant differential settling;
- (2) On-site or local geologic or geomorphologic features; and
- (3) On-site or local human-made features or events (both surface and subsurface).

b. For purposes of this section:

(1) "Unstable area" means a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity of some or all of the landfill structural components responsible for preventing releases from a landfill. Unstable areas can include poor foundation conditions, areas susceptible to mass movements, and Karst terranes.

(2) "Structural components" means liners, leachate collection systems, final covers, run-on/run-off systems, and any other component used in the construction and operation of the MSWIALF that is necessary for protection of human health and the environment.

(3) "Poor foundation conditions" means those areas where features exist which indicate that a natural or man-induced event may result in inadequate foundation support for the structural components of an MSWIALF unit.

(4) "Areas susceptible to mass movement" means those areas of influence (i.e., areas characterized as having an active or substantial possibility of mass movement) where the movement of earth material at, beneath, or adjacent to the MSWIALF unit, because of natural or man-induced events, results in the downslope transport of soil and rock material by means of gravitational influence. Areas of

mass movement include, but are not limited to, landslides, avalanches, debris slides and flows, soil fluction, block sliding, and rock fall.

(5) "Karst terranes" means areas where karst topography, with its characteristic surface and subterranean features, is developed as the result of dissolution of limestone, dolomite, or other soluble rock. Characteristic physiographic features present in karst terranes include, but are not limited to, sinkholes, sinking streams, caves, large springs, and blind valleys.

13.16. CLOSURE OF EXISTING MSWIALFS

a. Existing MSWIALF units that cannot make the demonstration specified in 13.11.a. pertaining to floodplains, or 13.15.a. pertaining to unstable areas, must close within three (3) years of the effective date of these regulations, in accordance with 13.60. of this part and conduct post-closure activities in accordance with 13.61. of this part.

b. The deadline for closure required by paragraph (a) of this section may be extended up to two (2) years if the owner or operator demonstrates to the Department that:

- (1) There is no available alternative disposal capacity;
- (2) There is no immediate threat to human health and the environment.

13.17. HYDROGEOLOGIC CONSIDERATIONS

a. New MSWIALF units and expansions of existing MSWIALF units, except MSWIALF disposal units designed and permitted prior to the effective date of these regulations, should be located in areas that can be demonstrated to have the characteristics listed below (13.17.a(1), a.(2), a.(3), and a.(4)). The inability of a site to meet full compliance with these criteria may not necessarily make the site unsuitable, but the applicant has the burden to demonstrate to the satisfaction of the Department why variance from the criteria will not compromise protection to human health and the environment. If Department review finds the demonstration to be inadequate, the application may be denied.

(1) That the site is not located in an area where the hydrogeologic conditions allow the migration of groundwater in shallow geologic units, having little potential as an underground source of drinking water, into deeper units. At the disposal area, any release to the uppermost aquifer would remain in the uppermost aquifer until discharge into the perennial stream nearest to the disposal area. The potentiometric head in the shallow portion of the uppermost aquifer should be equal to or lower than the potentiometric head in the deeper portion of the uppermost aquifer (i.e., a lateral or an upward hydraulic gradient should exist);

(2) That a minimum three (3) foot separation of naturally occurring material or an appropriate amount of equivalent engineered material can be maintained between the base of the constructed liner system and the high water table as it exists naturally;

(3) That a minimum ten (10) foot vertical separation of naturally occurring or engineered material can be maintained between the base of the constructed liner and bedrock: provided however, the nature of

the material and sufficient separation exists to provide for installation and operation of an effective groundwater monitoring system. The nature of the material making up this interval is subject to Department approval;

(4) That the unit is not located over an area where a stratum of limestone exhibiting secondary permeability with an average thickness of greater than five (5) feet, lies within fifty (50) feet of the base of the unit;

b. New MSWIALF units and expansions of existing MSWIALF units, except MSWIALF disposal units designed and permitted prior to the effective date of these regulations, are prohibited in areas where the owner or operator cannot demonstrate to the satisfaction of the Department:

(1) That the MSWIALF unit is not located in a manner that would result in the destruction of a perennial stream, within two hundred (200) feet of a perennial stream, within that portion of a drainage basin included in a two thousand five hundred (2500) foot radius on the upstream side of a public drinking water supply intake, and within that portion of a drainage basin which is within one thousand (1000) feet of a lake, pond, or reservoir used as a source of public drinking water supply; and,

(2) That the hydrogeologic properties of the site can be adequately characterized. The characterization shall include, but not be limited to, a detailed description of the geologic units below the site (including mineralogy, sedimentary structures, thickness, continuity, and structure), the hydraulic properties of each geologic unit (including secondary porosity and a discussion of variations noted across the site), hydraulic gradient, hydraulic conductivity, and direction and rate of groundwater flow within the uppermost aquifer system and all interconnected aquifers and confining units using a groundwater flow net. In addition, the relationship between the units below the site to locally and regionally recognized geologic and hydrogeologic units must be described.

c. New MSWIALF units and expansions of existing MSWIALF units shall not be located over class GA groundwater or over the recharge area for Class GA groundwater as designated by the Department, over a sole source aquifer, or over the recharge area for a sole source aquifer as designated by the Department.

d. All MSWIALF facilities must demonstrate compliance with the groundwater monitoring requirements under Subpart E.

13.18. BUFFER ZONES

a. New MSWIALF units and MSWIALF expansions shall meet the following buffer zone requirements:

(1) Shall not be located within one hundred (100) feet of any property line not under control of the owner or operator.

(2) Shall not be located within two hundred (200) feet of any surface water body, excluding ditches, sediment ponds, and other operational features on the site.

(3) Shall not be located within two hundred (200) feet of any residences, schools, hospitals and recreational park areas, existing at the time of permit application, or unless such features are included in the site design for a planned end-use.

(4) Shall not be located within the following distances from groundwater uses for human consumption that exist at the time of permit application:

- (a) less than five hundred (500) feet hydraulically upgradient of the waste disposal unit;
- (b) less than seven hundred fifty (750) feet hydraulically sidegradient of the waste disposal unit; or,
- (c) any distance directly hydraulically downgradient from the waste disposal unit to the point of discharge for the uppermost aquifer flowing beneath the waste disposal unit.

13.19. [Reserved]

SUBPART C - OPERATING CRITERIA

13.20 [Reserved]

13.21. COVER MATERIAL REQUIREMENTS

a. Except as provided in paragraph (b) of this section, the owners or operators of all MSWIALF units must cover disposed ash with six (6) inches of earthen material at the end of each operating day, or at more frequent intervals if necessary.

b. Alternative materials of an alternative thickness (other than at least six (6) inches of earthen material), or alternate frequency for covering ash may be approved by the Department on a case by case basis if the owner or operator demonstrates that the alternative material and thickness, or covering frequency is adequate to prevent a threat to human health and the environment.

c. The MSWIALF facility shall have an adequate quantity of acceptable earth cover (or approved alternate) for routine operations. If the material does not originate on site, the permit application should indicate the calculated volume of material needed for cover, provide assurances that off-site quantities of cover material are available, the location of any earth stockpiles, and any provisions for saving topsoil for use as final cover. The earth cover material shall be easily workable and compactable, shall be free of large objects that would hinder compaction, and shall not contain organic matter conducive to the harborage and/or breeding of vectors or nuisance animals.

d. The Department may grant, with prior notice from the owner or operator, a temporary waiver not to exceed seven (7) days from the requirements of paragraphs a. and b. for emergency situations.

13.22. DISEASE VECTOR CONTROL

a. Owners or operators of all MSWIALF units must prevent or control on-site populations of disease

vectors using techniques appropriate for the protection of human health and the environment.

b. For purposes of this section, "disease vectors" means any rodents, flies, mosquitoes, or other animals, including insects, capable of transmitting disease to humans.

13.23 [Reserved]

13.24. AIR CRITERIA

a. Owners or operators of all MSWIALFs must ensure that the units do not violate any applicable requirements developed under a State Implementation Plan (SIP) approved or promulgated by the Administrator pursuant to section 110 of the Clean Air Act, as amended.

b. Open burning of solid waste, except for the infrequent burning of agricultural wastes, silvicultural wastes, landclearing debris, diseased trees, or debris from emergency clean-up operations, all of which require prior Department approval, is prohibited at all MSWIALF units.

13.25. ACCESS REQUIREMENTS

a. Owners or operators of all MSWIALF units must control public access and prevent unauthorized vehicular traffic and illegal dumping of wastes by using artificial barriers, natural barriers, or both, as appropriate to protect human health and the environment.

b. An all-weather access road shall be provided to the site.

c. Salvaging and scavenging shall not be allowed at the working face of a MSWIALF at any time.

13.26. RUN-ON/RUN-OFF CONTROL SYSTEMS

a. Owners or operators of all MSWIALF units must design, construct, and maintain:

(1) A run-on control system to prevent flow onto the active portion of the landfill during the peak discharge from a 25-year storm;

(2) A run-off control system from the active portion of the landfill to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

b. Run-off from the active portion of the landfill unit must be handled in accordance with 13.27.a. of this part.

13.27. SURFACE WATER REQUIREMENTS

a. MSWIALF units shall not:

(1) Cause a discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the Clean Water Act, including, but not limited to, the National Pollutant

Discharge Elimination System (NPDES) requirements, pursuant to section 402.

(2) Cause the discharge of a nonpoint source of pollution to waters of the United States, including wetlands, that violates any requirement of an area-wide or State-wide water quality management plan that has been approved under section 208 or 319 of the Clean Water Act, as amended.

13.28. [Reserved]

13.29. RECORDKEEPING REQUIREMENTS

a. The owner or operator of a MSWIALF unit must record and retain near the facility in an operating record or in an alternative location approved by the Department the following information as it becomes available:

- (1) Any location restriction demonstration required under Subpart B of this part;
- (2) Inspection records, training procedures, and notification procedures required in 13.20. of this part;
- (3) Any demonstration, certification, finding, monitoring, testing, or analytical data required by Subpart E of this part;
- (4) Closure and post-closure care plans and any monitoring, testing, or analytical data as required by 13.60. and 13.61. of this part;
- (5) Any cost estimates and financial assurance documentation required by Subpart G of this part; and
- (6) The results of any environmental monitoring or testing performed in accordance with this regulation or the operating permit for the facility.

b. The owner/operator must notify the Department when the documents from paragraph (a) of this section have been placed or added to the operating record, and all information contained in the operating record must be furnished upon request to the Department or be made available at all reasonable times for inspection by the Department.

c. The Department can set alternative schedules for recordkeeping and notification requirements as specified in paragraphs a. and b. of this section, except for the notification requirements in 13.10.b. and 13.55.i.(1)(d).

13.30. SCALE INSTALLATION

a. Each owner or operator of a municipal solid waste incinerator ash landfill shall install and/or maintain scales capable of accurately determining the weight of incoming waste streams.

13.31. EQUIPMENT

a. The following equipment may be required to ensure adequate operation of the MSWIALF:

- (1) Equipment or adequate contractual arrangements for equipment sufficient for excavating, earth moving, spreading, compacting and covering operations;
- (2) Sufficient reserve equipment, or arrangements to provide alternate equipment within twenty-four (24) hours following equipment breakdown; and,
- (3) Equipment to extinguish fires or arrangements to provide for fire protection.

13.32. SUPERVISION AND INSPECTION

a. Supervision of the operation of the MSWIALF shall be the responsibility of a qualified individual who has experience in the operation of a MSWIALF or equivalent, and has completed operator training courses as required by code section 44-96-460.

b. Routine inspection and evaluation of landfill operations will be made by a representative of the Department. A notice of any deficiencies, together with any recommendations for their correction, will be provided to the owner or local government responsible for the operation of the MSWIALF.

c. Inspection of the completed MSWIALF shall be made by a representative of the Department. Any necessary corrective work shall be performed before the landfill project is accepted as completed.

13.33. LEACHATE HANDLING AGREEMENT

a. Either a legal document (contract, local permit, etc.) certifying acceptance of leachate by the operator of a wastewater treatment facility for the discharge of leachate to that facility, or a state pollutant discharge elimination system permit shall be obtained prior to initial receipt of waste at the facility.

13.34. LEACHATE CONTROL

a. The owner or operator of the MSWIALF unit shall use its best efforts to ensure that the leachate head above the liner system does not exceed one (1) foot, except for brief periods not to exceed one (1) week, due to circumstances beyond the immediate control of the owner or operator.

13.35. TESTING OF ASH

a. Ash residue disposed at a MSWIALF shall be sampled and analyzed according to the current Environmental Protection Agency (EPA) acceptable methodology for determining the hazardous nature of the ash.

b. The required analysis of all ash shall be performed in accordance with the conditions of the solid waste incinerator permit where the ash is generated, and the MSWIALF where the ash is disposed.

c. Ash from each facility generating ash shall be tested, at a minimum semi-annually, and when any

changes occur to the waste streams being incinerated, prior to disposal, to determine the hazardous or non-hazardous nature of the ash stream.

- d. No ash which exhibits any hazardous properties shall be disposed at a MSWIALF.
- e. Any ash which exhibits any hazardous properties shall be disposed in a landfill which meets all requirements for hazardous waste disposal.
- f. Records of all ash testing shall be maintained in the operating record of the MSWIALF.

13.36. - 13.39. [Reserved]

SUBPART D - DESIGN CRITERIA

13.40. DESIGN CRITERIA

- a. New MSWIALF units and lateral expansions shall be constructed:
 - (1) With a composite liner, as defined in paragraph b. of this section and a leachate collection system that is designed and constructed to maintain less than a one (1) foot depth of leachate over the liner, except in sumps; or,
 - (2) With a double geomembrane liner system as defined in section 13.2 and a leachate collection system that is designed and constructed to maintain less than a one (1) foot depth of leachate over the liner, except in sumps.
- b. For purposes of this section, "composite liner" means a system consisting of two (2) components; the upper component must consist of a minimum 30-mil flexible membrane liner (FML), and the lower component must consist of at least a two (2) foot layer of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec. FML components consisting of High Density Polyethylene (HDPE) shall be at least 60-mil thick. The FML component must be installed in direct and uniform contact with the compacted soil component.
- c. The leachate collection and removal system shall be designed and built to operate without clogging during the operational life of the site and post-closure maintenance period.
- d. Filter layers shall be designed to prevent the migration of fine soil particles into a coarser grained material, and allow water or gases to freely enter a drainage medium (pipe or drainage blanket) without clogging.
- e. The total thickness of the drainage and protective layers above the liner material shall be a minimum of two (2) feet thick, and shall be composed of material with a minimum hydraulic conductivity of 1×10^{-4} cm/sec.
- f. All material used in the leachate collection and removal system of the landfill shall be designed to

ensure that the hydraulic leachate head on the liner system does not exceed one (1) foot as a result of a 24-hour, 25-year storm event during the active life and post-closure period of the landfill facility.

g. A foundation analysis shall be performed to determine the structural integrity of the subgrade to support the horizontal and vertical stresses and overlying facility components.

(1) The constructed landfill subgrade material shall minimize organic material and consist of on-site soils or select fill as approved by the Department.

(2) The landfill subgrade shall be graded in accordance with the requirements of the approved engineering plans, reports and specifications. The material shall be sufficiently dry and structurally sound to ensure that the first lift and all succeeding lifts of soil as an addition, if used, placed over the landfill subgrade can adequately be compacted to the design requirements.

h. The relevant point of compliance specified by the Department shall be no more than one hundred fifty (150) feet from the waste management unit boundary and shall be located on land owned by the owner of the MSWIALF unit. In determining the relevant point of compliance, the Department shall consider at least the following factors:

- (1) The hydrogeologic characteristics of the facility and surrounding land;
- (2) The volume and physical and chemical characteristics of the leachate;
- (3) The quantity, quality, and direction of flow of groundwater;
- (4) The proximity and withdrawal rate of the groundwater users;
- (5) The availability of alternative drinking water supplies;
- (6) The existing quality of the groundwater, including other sources of contamination and their cumulative impacts on the groundwater and whether groundwater is currently used or reasonably expected to be used for drinking water;
- (7) Public health, safety, and welfare effects; and
- (8) Practicable capability of the owner or operator.

i. One permanent survey benchmark of known elevation measured from a U.S. Geological Survey benchmark shall be established and maintained at the site. This benchmark will be the reference point for establishing horizontal and vertical elevation control.

j. A separation of three (3) feet shall be maintained between the base of the constructed liner system and the high water table.

k. The soil component of the liner system shall conform with the following:

- (1) The soil component of the liner system shall be placed on a slope of no less than two (2)

percent to promote positive drainage across the liner surface and at a maximum slope not greater than thirty-three (33) percent to facilitate construction.

(2) Compaction shall be performed by properly controlling the moisture content, lift thickness and other necessary details to obtain satisfactory results.

l. The flexible membrane liner material shall demonstrate a chemical and physical resistance to waste placement or leachate generated by the landfill. Documentation shall be submitted to ensure chemical compatibility of the geomembrane liner material chosen, or in absence of the appropriate documentation, chemical compatibility testing will be performed using a test method acceptable to the Department. Flexible membrane liners shall be installed in accordance with the requirements of the approved engineering plans, report, specifications and manufacturer's recommendations.

m. All storm water ditches should have a minimum slope of .5% or a minimum permissible non-silting velocity of two (2) feet per second. When it is not possible to achieve minimum slopes and/or velocities, alternate system design and maintenance which ensures proper run-on and run-off control may be approved by the Department.

n. For landfill expansions adjacent to existing MSWIALFs, the Department may approve encroachment upon the existing landfill's side slopes only if a leachate barrier system is designed and constructed to eliminate leachate migration into the existing landfill. The expansion area shall be constructed in compliance with all applicable sections of this regulation.

o. A construction certification report shall be submitted to the Department within forty-five (45) days after the completion of landfill construction by an engineer other than the design engineer, registered in the state of South Carolina. This report shall include at a minimum, the information prepared in accordance with the application requirements. In addition, the construction certification report shall contain as-built drawings prepared and sealed by a land surveyor registered in South Carolina noting any deviations from the approved engineering plans. The construction certification report must include a comprehensive narrative by the engineer.

p. A MSWIALF unit may be used for the co-disposal of municipal solid waste and municipal solid waste incinerator ash if it meets the following requirements:

- (1) the unit meets all applicable requirements for a municipal solid waste landfill; and,
- (2) the unit has a double geomembrane liner. The liner shall be designed, operated and constructed of materials to prevent the migration of any constituent into and through such liner during the period the facility remains in operation and for the post-closure monitoring period.

q. The Department may, on a case by case basis, approve other landfill designs, provided there is adequate information to demonstrate that the proposed design meets or exceeds the environmental and public health protection standards outlined in Subparts B, D and E of this regulation.

13.41. - 13.49. [Reserved]

SUBPART E - GROUNDWATER MONITORING AND CORRECTIVE ACTION**13.50. APPLICABILITY**

a. The requirements in this part apply to all MSWIALF units, except as provided in paragraph b. of this section.

b. Groundwater monitoring requirements under 13.51. through 13.55. of this regulation may be modified by the Department for a MSWIALF unit if the owner or operator can demonstrate that there is no potential for migration of hazardous constituents from that MSWIALF unit to the uppermost aquifer (as defined in 13.2.) during the active life of the unit and the post-closure care period. This demonstration must be certified by a qualified groundwater scientist and approved by the Department, and must be based upon:

- (1) Site-specific field collected measurements, sampling, and analysis of physical, chemical, and biological processes affecting contaminant fate and transport, and
- (2) Contaminant fate and transport predictions that maximize contaminant migration and consider impacts on human health and environment.

c. Owners and operators of MSWIALF units must comply with the groundwater monitoring requirements of this part according to the following schedule:

- (1) All existing MSWIALF units and lateral expansions must be in compliance with the groundwater monitoring requirements specified in 13.51. - 13.55. by the effective date of these regulations;
- (2) New MSWIALF units must be in compliance with the groundwater monitoring requirements specified in 13.51. - 13.55. before waste can be placed in the unit.

d. Once established at a MSWIALF unit, groundwater monitoring shall be conducted throughout the active life and post-closure care period of that MSWIALF unit as specified in 13.61.

e. For the purposes of this subpart, a qualified groundwater scientist is a scientist or engineer who has received a baccalaureate or post-graduate degree in the natural sciences or engineering and has sufficient training and experience in groundwater hydrology and related fields as may be demonstrated by State registration, professional certifications, or completion of accredited university programs that enable that individual to make sound professional judgements regarding groundwater monitoring, contaminant fate and transport, and corrective action.

f. The Department may establish alternative schedules for demonstrating compliance with the various sections of this subpart on a case by case basis, provided sufficient technical rationale is provided to the Department to justify the alternate compliance schedule.

13.51 GROUNDWATER MONITORING SYSTEMS

a. A groundwater monitoring system must be installed that consists of a sufficient number of wells, installed at appropriate locations and depths, to yield representative groundwater samples from the uppermost aquifer (as defined in 13.2.) that:

(1) Represent the quality of background groundwater that has not been affected by leakage from a unit. A determination of background quality may include sampling of wells that are not hydraulically upgradient of the waste management area where:

(a) Hydrogeologic conditions do not allow the owner or operator to determine what wells are hydraulically upgradient; or

(b) Sampling at other wells will provide an indication of background groundwater quality that is as representative or more representative than that provided by the upgradient wells; and

(2) Represent the quality of groundwater passing the relevant point of compliance approved by the Department under 13.40.i. The downgradient monitoring system must be installed between the relevant point of compliance specified by the Department under 13.40.i. and the actual disposal area, and shall ensure detection of any groundwater contamination in the uppermost aquifer. When physical obstacles preclude installation of groundwater monitoring wells at the relevant point of compliance at existing units, the downgradient monitoring system may be installed at the closest practicable distance hydraulically downgradient from the relevant point of compliance specified by the Department under 13.40.i. that ensure detection of groundwater contamination in the uppermost aquifer.

b. The Department may approve a multi-unit groundwater monitoring system instead of separate groundwater monitoring systems for each MSWIALF unit when the facility has several units, provided the multi-unit groundwater monitoring system meets the requirement of 13.51.a. and will be as protective of human health and the environment as individual monitoring systems for each MSWIALF unit, based on the following factors:

- (1) Number, spacing, and orientation of the MSWIALF units;
- (2) Hydrogeologic setting;
- (3) Site history;
- (4) Engineering design of the MSWIALF units, and
- (5) Type of waste accepted at the MSWIALF units.

c. Monitoring wells must be approved by the Department and constructed, at a minimum, to the standards established in the South Carolina Well Standards and Regulations R. 61-71.11.

(1) The owner or operator must notify the Department that the design, installation, development, and decommission of any monitoring wells, piezometers and other measurement, sampling, and analytical devices documentation has been placed in the operating record; and,

(2) The monitoring wells, piezometers, and other measurement, sampling, and analytical devices

must be operated and maintained so that they perform to design specifications throughout the life of the monitoring program.

d. The number, spacing, and depths of monitoring systems shall be:

(1) Determined based upon site-specific technical information that must include a thorough characterization of:

(a) Aquifer thickness, groundwater flow rate, groundwater flow direction including seasonal and temporal fluctuations in groundwater flow, the information required by 13.17.; and

(b) Saturated and unsaturated geologic units and fill materials overlying the uppermost aquifer, materials comprising the uppermost aquifer, and materials comprising the confining unit defining the lower boundary of the uppermost aquifer; including, but not limited to: thicknesses, stratigraphy, lithology, hydraulic conductivities, porosities and effective porosities.

(2) Certified by a qualified groundwater scientist and approved by the Department. Within fourteen (14) days of this certification, the owner or operator must notify the Department that the certification has been placed in the operating record.

13.52. [Reserved]

13.53. GROUNDWATER SAMPLING AND ANALYSIS REQUIREMENTS

a. The groundwater monitoring program must include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide an accurate representation of groundwater quality at the background and downgradient wells installed in compliance with 13.51.a. of this part. The owner or operator must submit to the Department for review and approval, the sampling and analysis procedures and protocols to be used at the facility. After approval by the Department, documentation must be placed in the operating record and the program must include procedures and techniques for:

- (1) Sample collection;
- (2) Sample preservation and shipment;
- (3) Analytical procedures;
- (4) Chain of custody control; and
- (5) Quality assurance and quality control.

b. The groundwater monitoring program must include sampling and analytical methods that are appropriate for groundwater sampling and that accurately measure hazardous constituents and other monitoring parameters in groundwater samples. Detection limits for those parameters that have a Maximum Contaminant Level (MCL) that has been promulgated under section 1412 of the Safe Drinking Water Act (codified) under 40 CFR part 141, shall be, at a minimum, below the established MCL.

Groundwater samples shall not be field-filtered prior to laboratory analysis.

- c. The sampling procedures and frequency must be protective of human health and the environment.
- d. Groundwater elevations must be measured in each well prior to purging, each time groundwater is sampled. The owner or operator must determine the rate and direction of groundwater flow each time groundwater is sampled. Groundwater elevations in wells which monitor the same waste management area must be measured on the same day to avoid temporal variations in groundwater flow which could preclude an accurate determination of groundwater flow rate and direction.
- e. The owner or operator must establish background groundwater quality in a hydraulically upgradient or background well(s) for each of the constituents required in the groundwater monitoring program. Background groundwater quality may be established at wells that are not located hydraulically upgradient from the MSWIALF unit if it meets the requirements of 13.51.a.(1).
- f. The number of samples collected to establish groundwater quality data must be consistent with the appropriate statistical procedures determined pursuant to paragraph g. of this section. The sampling procedures shall be those specified under 13.54.b. for detection monitoring, 13.55.b. and d. for assessment monitoring, and 13.56.b. of corrective action.
- g. The owner or operator must specify in the operating record one of the following statistical methods to be used in evaluating groundwater monitoring data for each of the constituents in Appendix I. The statistical test chosen shall be conducted separately for each parameter in each well, every time samples are collected.
 - (1) A parametric analysis of variance (ANOVA) followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's mean and the background mean levels for each constituent.
 - (2) An analysis of variance (ANOVA) based on ranks followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's median and the background median levels for each constituent.
 - (3) A tolerance or prediction interval procedure in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit.
 - (4) A control chart approach that gives control limits for each constituent.
 - (5) Another statistical test method that meets the performance standards of 13.53.h. The owner or operator must place a justification for this alternative in the operating record and obtain approval from the Department for the use of this alternative test. The justification must demonstrate that the alternative method meets the performance standards of 13.53.h.

h. Any statistical method chosen under 13.53.g. shall comply with the following performance standards, as appropriate:

(1) The statistical method used to evaluate groundwater monitoring data shall be appropriate for the distribution of constituents. If the distribution of the constituents is shown by the owner or operator to be inappropriate for a normal theory test, then the data should be transformed or a distribution-free theory test should be used. If the distributions for the constituents differ, more than one statistical method may be needed.

(2) If an individual well comparison procedure is used to compare an individual compliance well constituent concentration with background constituent concentrations or a groundwater protection standard, the test shall be done at a Type I error level no less than 0.01 for each testing period. If a multiple comparisons procedure is used, the Type I experiment wise error rate for each testing period shall be no less than 0.05; however, the Type I error of no less than 0.01 for individual well comparisons must be maintained. This performance standard does not apply to tolerance intervals, prediction intervals, or control charts.

(3) If a control chart approach is used to evaluate groundwater monitoring data, the specific type of control chart and its associated parameter values shall be protective of human health and the environment. The parameters shall be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.

(4) If a tolerance interval or a predictional interval is used to evaluate groundwater monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval must contain, shall be protective of human health and the environment. These parameters shall be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.

(5) The statistical method shall account for data below the limit of detection with one or more statistical procedures that are protective of human health and the environment. Any practical quantitation limit (pql) that is used in the statistical method shall be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility.

(6) If necessary, the statistical method shall include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.

i. The owner or operator must determine whether or not there is a statistically significant increase over background values for each constituent required in the groundwater monitoring program that applies to the MSWIALF unit.

(1) In determining whether a statistically significant increase has occurred, the owner or operator must compare the groundwater quality of each parameter or constituent at each monitoring well designated pursuant to 13.51.a.(2) to the background value of that constituent, according to the statistical procedures and performance standards specified under paragraphs g. and h. of this section.

(2) Within a reasonable period of time after completing sampling and analysis, the owner or operator must determine whether there has been a statistically significant increase over background for each constituent requiring statistical analysis at each monitoring well.

13.54. DETECTION MONITORING PROGRAM

a. Detection monitoring is required at MSWIALF units at all groundwater monitoring wells defined under 13.51.a.(1) and a.(2) of this part. At a minimum, a detection monitoring program must include the monitoring for the constituents listed in appendix I of this part.

(1) The Department may delete any of the appendix I monitoring parameters for a MSWIALF unit if it can be shown that the deleted constituent(s) are not reasonably expected to be contained in or derived from the waste contained in the unit.

b. The monitoring frequency for all constituents listed in appendix I to this part shall be at least semiannual during the active life of the facility (including closure) and the post-closure period. At least one sample from each well (background and downgradient) must be collected and analyzed during each sampling event.

c. The Department may specify an appropriate alternative frequency for repeated sampling and analysis for appendix I constituents during the active life (including closure) and the post-closure care period. The alternative frequency during the active life (including closure) shall be no less than semiannual. The alternative frequency shall be based on consideration of the following factors:

- (1) Lithology of the aquifer and unsaturated zone;
- (2) Hydraulic conductivity of the aquifer and unsaturated zone;
- (3) Groundwater flow rates;
- (4) Minimum distance between upgradient edge of the MSWIALF unit and downgradient monitoring well screen (minimum distance of travel); and
- (5) Resource value of the aquifer.

d. If the owner or operator determines, pursuant to 13.53.g. of this part, that there is a statistically significant increase over background for one or more of the constituents listed in appendix I to this part at any monitoring well at the boundary specified under 13.51.a.(2), the owner or operator:

- (1) Must, within fourteen (14) days of this finding, notify the Department;
- (2) Must, within fourteen (14) days of this finding, place a notice in the operating record indicating which constituents have shown statistically significant changes from background levels;
- (3) Must, within thirty (30) days of this finding, resample the monitoring well(s) in question for

appendix I to determine the validity of the data; and

(4) If the data are validated by resampling, must establish an assessment monitoring program meeting the requirements of 13.55. of this part within ninety (90) days except as provided for in paragraph (d)(5) of this section.

(5) The owner/operator may demonstrate that a source other than a MSWIALF unit caused the contamination or that the statistically significant increase (SSI) resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. A report documenting this demonstration must be certified by a qualified groundwater scientist and approved by the Department and be placed in the operating record. If a successful demonstration is made and documented, the owner or operator may continue detection monitoring as specified in this section. If, after ninety (90) days, a successful demonstration is not made, the owner or operator must initiate an assessment monitoring program as required in 13.55.

e. The owner/operator shall submit to the Department on or before the anniversary date of issuance of the permit, an annual report containing all of the analytical and statistical analysis performed at the site for the previous year as a result of the requirements of Subpart E. The annual report shall contain the following:

(1) the results of all analytical testing performed at the site during the previous year, and any applicable data concerning sampling and analysis of monitoring wells at the site;

(2) a determination of the technical sufficiency of the monitoring well network in detecting a release from the facility as required by 13.51.;

(3) the determination of groundwater elevations, groundwater flow directions and groundwater flow rates as specified in 13.53.d. Groundwater flow directions shall be based upon interpretation of a potentiometric map prepared utilizing the groundwater elevations measured at the site; and,

(4) a summary of the results of the statistical analysis performed in accordance with 13.53.g. and 13.53.h.

f. The results of all chemical analysis of groundwater samples taken during routine monitoring shall be submitted to the Department within sixty (60) days of the sample collection. On sampling events where an annual report is to be submitted to the Department, the annual report shall satisfy this requirement.

13.55. ASSESSMENT MONITORING PROGRAM

a. Assessment monitoring is required whenever a statistically significant increase over background has been detected and validated in accordance with 13.54.d. for one or more of the constituents listed in appendix I, unless a successful demonstration has been made in accordance with section 13.54.d.(5).

b. Within ninety (90) days of triggering an assessment monitoring program, and annually thereafter, the owner or operator must sample and analyze the groundwater for all constituents identified in appendix II of this part. A minimum of one sample from each downgradient well must be collected and analyzed during

each sampling event. For any constituent detected in the downgradient wells as the result of the complete appendix II analysis, a minimum of four (4) independent samples from each well (background and downgradient) must be collected and analyzed to establish background for any new constituents not on Appendix I.

c. The Department may approve an appropriate subset of wells to be sampled and analyzed for appendix II constituents during assessment monitoring, provided the owner/operator provides sufficient technical rationale for the subset of wells.

d. The Department may allow an appropriate alternate frequency for repeated sampling and analysis for the full set of appendix II constituents required by 13.55.b. of this part, during the active life (including closure) and post-closure care of the unit considering the following factors:

- (1) Lithology of the aquifer and unsaturated zone;
- (2) Hydraulic conductivity of the aquifer and unsaturated zone;
- (3) Groundwater flow rates;
- (4) Minimum distance between upgradient edge of the MSWIALF unit and downgradient monitoring well screen (minimum distance of travel);
- (5) Resource value of the aquifer; and
- (6) Nature (fate and transport) of any constituents detected in response to this section.

e. After obtaining the results from the initial or subsequent sampling events required in paragraph b. of this section, the owner or operator must:

- (1) Within fourteen (14) days, place a notice in the operating record identifying the appendix II constituents that have been detected and notify the Department that this notice has been placed in the operating record;

- (2) Within ninety (90) days, and on at least a semiannual basis thereafter, resample all wells specified by 13.51.a. to this part, conduct analyses for all constituents in appendix I to this part and for those constituents in appendix II to this part that are detected in response to paragraph (b) of this section, and record their concentrations in the facility operating record. At least one sample from each well (background and downgradient) must be collected and analyzed during these sampling events.

- (3) Establish background concentrations for any constituents detected pursuant to paragraphs b., c., d. or e.(2) of this section; and

- (4) Establish groundwater protection standards for all constituents detected pursuant to paragraph b. or e. of this section. The groundwater protection standards shall be established in accordance with paragraphs j. or k. of this section.

f. The Department may specify an alternative monitoring frequency during the active life (including closure) and the post closure period for the constituents referred to in this paragraph. The alternative frequency for those appendix II constituents not on Appendix I during the active life (including closure) and the post-closure period shall be no less than annual. The alternative frequency shall be based on consideration of the factors specified in paragraph (d) of this section;

g. If the concentrations of all appendix II constituents are shown to be at or below background values for two consecutive sampling events, the owner or operator may request approval from the Department to return to detection monitoring.

h. If the concentrations of any appendix II constituents are above background values, but all concentrations are below the groundwater protection standard established under paragraphs j. or k. of this section, the owner or operator must continue assessment monitoring in accordance with this section.

i. If one or more appendix II constituents are detected at or above the groundwater protection standard established under paragraphs j. or k. of this section in any sampling event, the owner or operator must, within fourteen (14) days of this finding, place a notice in the operating record identifying the appendix II constituents that have exceeded the groundwater protection standard and notify the Department and all appropriate local government officials that the notice has been placed in the operating record. The owner or operator also:

(1) (a) Must submit to the Department within sixty (60) days of this finding, a groundwater quality assessment plan for characterizing the nature and extent of the release.

(b) Upon approval of the groundwater quality assessment plan, must characterize the nature and extent of the release by installing additional monitoring wells as necessary;

(c) Must install at least one additional monitoring well at the facility boundary in the direction of contaminant migration and sample this well in accordance with 13.55.d.(2);

(d) Must notify all persons who own the land or reside on the land that directly overlies any part of the plume of contamination if contaminants have migrated off-site if indicated by sampling of wells in accordance with 13.55.i.(1); and

(e) Must initiate an assessment of corrective measures as required by 255.56. of this part within ninety (90) days; or

(2) May demonstrate that a source other than a MSWIALF unit caused the contamination, or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. A report documenting this demonstration must be certified by a qualified groundwater scientist and approved by the Department and placed in the operating record. If a successful demonstration is made the owner or operator must continue monitoring in accordance with the assessment monitoring program pursuant to 13.55., and may return to detection monitoring if the appendix II constituents are at or below background as specified in 13.55.g. Until a successful demonstration is made, the owner or operator must comply with 13.55.i. including initiating an assessment of corrective measures.

j. The owner or operator must establish a groundwater protection standard for each appendix II constituent detected in the groundwater. The groundwater protection standard shall be:

(1) For constituents for which a maximum contaminant level (MCL) has been promulgated under section 1412 of the Safe Drinking Water Act (codified) under 40 CFR part 141, the MCL for that constituent;

(2) For constituents for which MCLs have not been promulgated, the background concentration for the constituent established from wells in accordance with 13.51.a.(1); or

(3) For constituents for which the background level is higher than the MCL identified under subparagraph j.(1) of this section or health based levels identified under 13.55.k.(1), the background concentration.

k. The Department may establish an alternative groundwater protection standard for constituents for which MCLs have not been established. These groundwater protection standards shall be appropriate health based levels that satisfy the following criteria:

(1) The level is derived in a manner consistent with Federal Environmental Protection Agency (EPA) guidelines for assessing the health risks of environmental pollutants (51 FR 33992, 34006, 34014, 34028, September 24, 1986);

(2) The level is based on scientifically valid studies conducted in accordance with the Toxic Substances Control Act Good Laboratory Practice Standards (40 CFR part 792) or equivalent;

(3) For carcinogens, the level represents a concentration associated with an excess lifetime cancer risk level (due to continuous lifetime exposure) with the 1×10^{-4} to 1×10^{-6} range; and

(4) For systemic toxicants, the level represents a concentration to which the human population (including sensitive subgroups) could be exposed to on a daily basis that is likely to be without appreciable risk of deleterious effects during a lifetime. For purposes of this subpart, systemic toxicants include toxic chemicals that cause effects other than cancer or mutation.

l. In establishing groundwater protection standards under paragraph (k) of this section, the Department may consider the following:

(1) Multiple contaminants in the groundwater;

(2) Exposure threats to sensitive environmental receptors; and

(3) Other site-specific exposure or potential exposure to groundwater.

13.56. ASSESSMENT OF CORRECTIVE MEASURES

a. Within ninety (90) days of finding that any of the constituents listed in appendix II have been detected at a level exceeding the groundwater protection standards defined under 13.55.j. or k. of this part,

the owner or operator must initiate an assessment of corrective measures. Such an assessment must be completed within a reasonable period of time, not to exceed one hundred eighty (180) days.

b. The owner or operator must continue to monitor in accordance with the assessment monitoring program as specified in 13.55.

c. The assessment shall include an analysis of the effectiveness of potential corrective measures in meeting all of the requirements and objectives of the remedy as described under 13.57., addressing at least the following:

(1) The performance, reliability, ease of implementation, and potential impacts of appropriate potential remedies, including safety impacts, cross-media impacts, and control of exposure to any residual contamination;

(2) The time required to begin and complete the remedy;

(3) The costs of remedy implementation; and

(4) The institutional requirements such as Department or local permit requirements or other environmental or public health requirements that may substantially affect implementation of the remedy(s).

d. The owner or operator must discuss the results of the corrective measures assessment, prior to the selection of remedy, in a public meeting with interested and affected parties.

13.57. SELECTION OF REMEDY

a. Based on the results of the corrective measures assessment conducted under 13.56, the owner or operator must select a remedy that, at a minimum, meets the standards listed in paragraph (b) of this section. The owner or operator must notify the Department, within fourteen (14) days of selecting a remedy, and submit a report to the Department for review and approval that describes the selected remedy and how it meets the standards in paragraph (b) of this section.

b. Remedies must:

(1) Be protective of human health and the environment;

(2) Attain the groundwater protection standard as specified pursuant to 13.55(j) or (k);

(3) Control the source(s) of releases so as to reduce or eliminate, to the maximum extent practicable, further releases of appendix II constituents into the environment that may pose a threat to human health or the environment; and

(4) Comply with standards for management of wastes as specified in 13.58.d.

c. In selecting a remedy that meets the standards of 13.57.b., the owner or operator shall consider the following evaluation factors:

(1) The long- and short-term effectiveness and protectiveness of the potential remedy(s), along with the degree of certainty that the remedy will prove successful based on consideration of the following:

- (a) Magnitude of reduction of existing risks;
- (b) Magnitude of residual risks in terms of likelihood of further releases due to waste remaining following implementation of a remedy;
- (c) The type and degree of long-term management required, including monitoring, operation, and maintenance;
- (d) Short-term risks that might be posed to the community, workers, or the environment during implementation of such a remedy, including potential threats to human health and the environment associated with excavation, transportation, and redisposal or containment;
- (e) Time until full protection is achieved;
- (f) Potential for exposure of humans and environmental receptors to remaining wastes, considering the potential threat to human health and the environment associated with excavation, transportation, redisposal, or containment;
- (g) Long-term reliability of the engineering and institutional controls; and
- (h) Potential need for replacement of the remedy.

(2) The effectiveness of the remedy in controlling the source to reduce further releases based on consideration of the following factors:

- (a) The extent to which containment practices will reduce further releases;
- (b) The extent to which treatment technologies may be used.

(3) The ease or difficulty of implementing a potential remedy(s) based on consideration of the following types of factors:

- (a) Degree of difficulty associated with constructing the technology;
- (b) Expected operational reliability of the technologies;
- (c) Need to coordinate with and obtain necessary approvals and permits from other agencies;
- (d) Availability of necessary equipment and specialists; and
- (e) Available capacity and location of needed treatment, storage, and disposal services.

- (4) The degree to which community concerns are addressed by a potential remedy(s).

d. The owner or operator shall specify as part of the selected remedy a schedule(s) for initiating and completing remedial activities. Such a schedule must require the initiation of remedial activities within a reasonable period of time taking into consideration the factors set forth in paragraphs d. (1-8). The owner or operator must consider the following factors in determining the schedule of remedial activities:

- (1) Extent and nature of contamination;
- (2) Practical capabilities of remedial technologies in achieving compliance with groundwater protection standards established under 13.55.j. or k. and other objectives of the remedy;
- (3) Availability of treatment or disposal capacity for wastes managed during implementation of the remedy;
- (4) Desirability of utilizing technologies that are not currently available, but which may offer significant advantages over already available technologies in terms of effectiveness, reliability, safety, or ability to achieve remedial objectives;
- (5) Potential risks to human health and the environment from exposure to contamination prior to completion of the remedy;
- (6) Resource value of the aquifer including:
 - (a) Current and future uses;
 - (b) Proximity and withdrawal rate of users;
 - (c) Groundwater quantity and quality;
 - (d) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituent;
 - (e) The hydrogeologic characteristic of the facility and surrounding land;
 - (f) Groundwater removal and treatment costs; and
 - (g) The cost and availability of alternative water supplies.
- (7) Practicable capability of the owner or operator.
- (8) Other relevant factors.

e. The Department may determine that remediation of a release of an appendix II constituent from a MSWIALF unit is not necessary if the owner or operator demonstrates to the Department that:

(1) The groundwater is additionally contaminated by substances that have originated from a source other than a MSWIALF unit and those substances are present in concentrations such that cleanup of the release from the MSWIALF unit would provide no significant reduction in risk to actual or potential receptors; or

(2) The constituent(s) is present in groundwater that:

(a) Is not currently or reasonably expected to be a source of drinking water; and

(b) Is not hydraulically connected with waters to which the hazardous constituents are migrating or are likely to migrate in a concentration(s) that would exceed the groundwater protection standards established under 13.55.j. or k.; or

(3) Remediation of the release(s) is technically impracticable; or

(4) Remediation results in unacceptable cross-media impacts.

f. A determination by the Department pursuant to paragraph (e) of this section shall not affect the authority of the Department to require the owner or operator to undertake source control measures or other measures that may be necessary to eliminate or minimize further releases to the groundwater, to prevent exposure to the groundwater, or to remediate the groundwater to concentrations that are technically practicable and significantly reduce threats to human health or the environment.

13.58. IMPLEMENTATION OF THE CORRECTIVE ACTION PROGRAM

a. Based on the schedule established under 13.57.d. for initiation and completion of remedial activities the owner/operator must:

(1) Establish and implement a corrective action groundwater monitoring program that:

(a) At a minimum, meet the requirements of an assessment monitoring program under 13.55.;

(b) Indicate the effectiveness of the corrective action remedy; and

(c) Demonstrate compliance with groundwater protection standard pursuant to paragraph (e) of this section.

(2) Implement the corrective action remedy selected under 13.57.; and

(3) Take any interim measures necessary to ensure the protection of human health and the environment. Interim measures should, to the greatest extent practicable, be consistent with the objectives of and contribute to the performance of any remedy that may be required pursuant to 13.57. The following factors must be considered by an owner or operator in determining whether interim measures are necessary:

(a) Time required to develop and implement a final remedy;

(b) Actual or potential exposure of nearby populations or environmental receptors to hazardous constituents;

(c) Actual or potential contamination of drinking water supplies or sensitive ecosystems;

(d) Further degradation of the groundwater that may occur if remedial action is not initiated expeditiously;

(e) Weather conditions that may cause hazardous constituents to migrate or be released;

(f) Risks of fire or explosion, or potential for exposure to hazardous constituents as a result of an accident or failure of a container or handling system; and

(g) Other situations that may pose threats to human health and the environment.

b. An owner or operator may determine, based on information developed after implementation of the remedy has begun or other information, that compliance with requirements of 13.57.b. are not being achieved through the remedy selected. In such cases, the owner or operator must implement other methods or techniques that could practicably achieve compliance with the requirements, unless the owner or operator makes the determination under 13.58.c.

c. If the owner or operator determines that compliance with requirements under 13.57.b. cannot be practically achieved with any currently available methods, the owner or operator must:

(1) Obtain certification of a qualified groundwater scientist and approval by the Department that compliance with requirements under 13.57.b. cannot be practically achieved with any currently available methods;

(2) Implement alternate measures to control exposure of humans or the environment to residual contamination, as necessary to protect human health and the environment; and

(3) Implement alternate measures for control of the sources of contamination, or for removal or decontamination of equipment, units, devices, or structures that are:

(a) Technically practicable; and

(b) Consistent with the overall objective of the remedy.

(4) Notify the Department within fourteen (14) days that a report justifying the alternative measures prior to implementing the alternative measures has been placed in the operating record.

d. All municipal solid waste incinerator ash that is managed pursuant to a remedy required under 13.57., or an interim measure required under 13.58.a.(3), shall be managed in a manner:

(1) That is protective of human health and the environment; and

- (2) That complies with applicable RCRA requirements.
- e. Remedies selected pursuant to 13.57. shall be considered complete when:
 - (1) The owner or operator complies with the groundwater protection standards established under 13.55.j. or k. at all points within the plume of contamination that lie beyond the groundwater monitoring well system established under 13.51.a.
 - (2) Compliance with the groundwater protection standards established under 13.55.j. or k. has been achieved by demonstrating that concentrations of appendix II constituents have not exceeded the groundwater protection standard(s) for a period of three (3) consecutive years using the statistical procedures and performance standards in 13.53.g. and h. The Department may specify an alternative length of time during which the owner or operator must demonstrate that concentrations of appendix II constituents have not exceeded the groundwater protection standard(s) taking into consideration:
 - (a) Extent and concentration of the release(s);
 - (b) Behavior characteristics of the hazardous constituents in the groundwater;
 - (c) Accuracy of monitoring or modeling techniques, including any seasonal, meteorological, or other environmental variabilities that may affect the accuracy; and
 - (d) Characteristics of the groundwater.
 - (3) All actions required to complete the remedy have been satisfied.
- f. Upon completion of the remedy, the owner or operator must notify the Department within fourteen (14) days that a certification that the remedy has been completed in compliance with the requirements of 13.58.e. has been placed in the operating record. The certification must be signed by the owner or operator and by a qualified groundwater scientist and approved by the Department.
- g. When, upon completion of the certification, the owner or operator determines that the corrective action remedy has been completed in accordance with the requirements under paragraph (e) of this section, the owner or operator shall be released from the requirements for financial assurance for corrective action under 13.73.

13.59. [Reserved]

SUBPART F - CLOSURE AND POST-CLOSURE CARE

13.60. CLOSURE CRITERIA

- a. The owner or operator must prepare a written closure plan that describes the steps necessary to close all MSWIALF units at any point during their active life in accordance with the cover design requirements in 13.60. The closure plan, at a minimum, must include the following information:

- (1) A description of the final cover, designed in accordance with 13.60.i. and the methods and procedures to be used to install the cover;
 - (2) An estimate of the largest area of the MSWIALF unit ever requiring a final cover as required under 13.60.i. at any time during the active life;
 - (3) An estimate of the maximum inventory of wastes ever on-site over the active life of the landfill facility; and
 - (4) A schedule for completing all activities necessary to satisfy the closure criteria in 13.60.
- b. The owner or operator must notify the Department that a closure plan has been prepared and placed in the operating record no later than the effective date of this part, or prior to permit issuance, whichever is later.
 - c. Prior to beginning closure of each MSWIALF unit as specified in 13.60.d., an owner or operator must notify the Department that a notice of the intent to close the unit has been placed in the operating record.
 - d. The owner or operator must begin closure activities of each MSWIALF unit no later than thirty (30) days after the date on which the MSWIALF unit receives the known final receipt of wastes or, if the MSWIALF unit has remaining capacity and there is a reasonable likelihood that the MSWIALF unit will receive additional wastes, no later than one year after the most recent receipt of wastes. Extensions beyond the one-year deadline for beginning closure may be granted by the Department if the owner or operator demonstrates that the MSWIALF unit has the capacity to receive additional wastes and the owner or operator has taken and will continue to take all steps necessary to prevent threats to human health and the environment from the unclosed MSWIALF unit.
 - e. The owner or operator of all MSWIALF units must complete closure activities of each MSWIALF unit in accordance with the closure plan within one hundred eighty (180) days following the beginning of closure as specified in section 13.60.d. Extensions of the closure period may be granted by the Department if the owner or operator demonstrates that closure will, of necessity, take longer than one hundred eighty (180) days and they have taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed MSWIALF unit.
 - f. Following closure of each MSWIALF unit, the owner or operator must notify the Department that a certification, signed by a South Carolina registered professional engineer, other than the design engineer, verifying that closure has been completed in accordance with the closure plan, has been placed in the operating record.
 - g. Following closure of all MSWIALF units, the owner or operator must record a notation on the deed to the landfill facility property, or some other instrument that is normally examined during title search, and notify the Department that the notation has been recorded and a copy has been placed in the operating record.

(1) The notation on the deed must in perpetuity notify any potential purchaser of the property that:

- (a) The land has been used as a landfill facility; and
- (b) Its use is restricted under 13.61.c.(3).

h. The owner or operator may request permission from the Department to remove the notation from the deed if all wastes are removed from the facility.

i. All facilities constructed with liner systems in accordance with this regulation shall install a final cover system which consists, of at a minimum:

- (1) eighteen (18) inches of soil with a maximum permeability of 1×10^{-5} centimeters per second, and capable of providing a suitable foundation for the flexible membrane liner specified in 13.60.i.(2);
- (2) a 20-mil flexible membrane liner with a maximum permeability equal to or less than the bottom liner system, if HDPE is used as the FML, then a sixty (60) mil thickness is required;
- (3) a drainage layer; and,
- (4) a minimum of two (2) feet of soil capable of supporting native vegetation.

j. All MSWIALF's closed utilizing a flexible membrane cover system shall be constructed to preclude precipitation migration into the landfill. All flexible membrane cover systems shall be constructed in accordance with the requirements of the approved engineering plans, reports, specifications and manufacturer's recommendations.

k. The erosion layer shall be designed to maintain vegetative growth over the landfill.

l. The Department may, on a case by case basis, approve other landfill closure designs, provided there is adequate information to demonstrate that the proposed design meets or exceeds the environmental and public health protection standards outlined in Subparts B, D and E of this regulation.

13.61. POST-CLOSURE CARE REQUIREMENTS

a. Following closure of each MSWIALF unit, the owner or operator must conduct post-closure care. Post-closure care must be conducted for a minimum thirty (30) years, except as provided under paragraph b. of this section, and consist of at least the following:

- (1) Maintaining the integrity and effectiveness of any final cover, including making repairs to the cover as necessary to correct the effects of settlement, subsidence, erosion, or other events, and preventing run-on and run-off from eroding or otherwise damaging the final cover;
- (2) Maintaining and operating the leachate collection system in accordance with the requirements in 13.40., if applicable. The Department may allow the owner or operator to stop managing leachate if the

owner or operator demonstrates to the Department's satisfaction that leachate no longer poses a threat to human health and the environment;

(3) Monitoring the groundwater in accordance with the requirements of subpart E of this part and maintaining the groundwater monitoring system, if applicable; and

b. The length of the post-closure care period may be:

(1) Increased by the Department if the Department determines that the lengthened period is necessary to protect human health and the environment.

(2) Decreased by the Department if the owner or operator can provide technical rationale that the decreased post-closure care period is sufficient to protect human health and the environment.

c. The owner or operator of all MSWIALF units must prepare a written post-closure plan that includes, at a minimum, the following information:

(1) A description of the monitoring and maintenance activities required in 13.61.(a) for each MSWIALF unit, and the frequency at which these activities will be performed;

(2) Name, address, and telephone number of the person or office to contact about the facility during the post-closure period; and

(3) A description of the planned uses of the property during the post-closure period. Post-closure use of the property shall not disturb the integrity of the final cover, liner(s), or any other components of the containment system, or the function of the monitoring systems unless necessary to comply with the requirements in Part 13. The Department may approve any other disturbance of the containment system if the owner or operator demonstrates that disturbance of the final cover, liner or other component of the containment system, including any removal of waste, will not increase the potential threat to human health or the environment.

d. The owner or operator must notify the Department that a post-closure plan has been prepared and placed in the operating record no later than the effective date of this regulation, or prior to permit issuance, whichever is later.

e. Following completion of the post-closure care period for each MSWIALF unit, the owner or operator must notify the Department that a certification, signed by a South Carolina registered professional engineer other than the design engineer, verifying that post-closure care has been completed in accordance with the post-closure plan, has been placed in the operating record.

13.62. - 13.69. [Reserved]

SUBPART G - FINANCIAL ASSURANCE CRITERIA

13.70. APPLICABILITY AND EFFECTIVE DATE

a. The requirements of this section apply to owners and operators of all MSWIALF units, except owners or operators who are State or Federal government entities whose debts and liabilities are the debts and liabilities of a State or the United States.

b. The requirements of this section are applicable on the effective date of this regulation.

13.71. FINANCIAL ASSURANCE FOR CLOSURE

a. The owner or operator must have a detailed written estimate, in current dollars, of the cost of hiring a third party to close the largest area of all MSWIALF units ever requiring a final cover as required under 13.60 at any time during the active life in accordance with the closure plan. The owner or operator must notify the Department that the estimate has been placed in the operating record.

(1) The cost estimate must equal the cost of closing the largest area of all MSWIALF units ever requiring a final cover at any time during the active life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan (see 13.60.a.(2) of this part).

(2) During the active life of the MSWIALF unit, the owner or operator must annually adjust the closure cost estimate for inflation.

(3) The owner or operator must increase the closure cost estimate and the amount of financial assurance provided under paragraph b. of this section if changes to the closure plan or MSWIALF unit conditions increase the maximum cost of closure at any time during the remaining active life.

(4) The owner or operator may reduce the closure cost estimate and the amount of financial assurance provided under paragraph b. of this section if the cost estimate exceeds the maximum cost of closure at any time during the remaining life of the MSWIALF unit. The owner or operator must notify the Department that the justification for the reduction of the closure cost estimate and the amount of financial assurance has been placed in the operating record.

b. The owner or operator of each MSWIALF unit must establish financial assurance for closure of the MSWIALF unit in compliance with 13.74. The owner or operator must provide continuous coverage for closure until released from financial assurance requirements by demonstrating compliance with 13.60.f. and g.

13.72. FINANCIAL ASSURANCE FOR POST-CLOSURE CARE

a. The owner or operator must have a detailed written estimate, in current dollars, of the cost of hiring a third party to conduct post-closure care for the MSWIALF unit in compliance with the post-closure plan developed under 13.61. of this part. The post-closure cost estimate used to demonstrate financial assurance in paragraph b. of this section must account for the total costs of conducting post-closure care, including annual and periodic costs as described in the post-closure plan over the entire post-closure care period. The owner or operator must notify the Department that the estimate has been placed in the operating record.

(1) The cost estimate for post-closure care must be based on the most expensive costs of post-closure care during the post-closure care period.

(2) During the active life of the MSWIALF unit and during the post-closure care period, the owner or operator must annually adjust the post-closure cost estimate for inflation.

(3) The owner or operator must increase the post-closure care cost estimate and the amount of financial assurance provided under paragraph b. of this section if changes in the post-closure plan or MSWIALF unit conditions increase the maximum costs of post-closure care.

(4) The owner or operator may reduce the post-closure cost estimate and the amount of financial assurance provided under paragraph b. of this section if the cost estimate exceeds the maximum costs of post-closure care remaining over the post-closure care period. The owner or operator must notify the Department that the justification for the reduction of the post-closure cost estimate and the amount of financial assurance has been placed in the operating record.

b. The owner or operator of each MSWIALF unit must establish, in a manner in accordance with 13.74., financial assurance for the costs of post-closure care as required under 13.61. of this part. The owner or operator must provide continuous coverage for post-closure care until released from financial assurance requirements for post-closure care by demonstrating compliance with 13.61.e.

13.73. FINANCIAL ASSURANCE FOR CORRECTIVE ACTION

a. An owner or operator of a MSWIALF unit required to undertake a corrective action program under 13.58. of this part must have a detailed written estimate, in current dollars, of the cost of hiring a third party to perform the corrective action in accordance with the program required under 13.58. of this part. The corrective action cost estimate must account for the total costs of corrective action activities as described in the corrective action plan for the entire corrective action period. The owner or operator must notify the Department that the estimate has been placed in the operating record.

(1) The owner or operator must annually adjust the estimate for inflation until the corrective action program is completed in accordance with 13.58.f. of this part.

(2) The owner or operator must increase the corrective action cost estimate and the amount of financial assurance provided under paragraph (b) of this section if changes in the corrective action program or MSWIALF unit conditions increase the maximum costs of corrective action.

(3) The owner or operator may reduce the amount of the corrective action cost estimate and the amount of financial assurance provided under paragraph b. of this section if the cost estimate exceeds the maximum remaining costs of corrective action. The owner or operator must notify the Department that the justification for the reduction of the corrective action cost estimate and the amount of financial assurance has been placed in the operating record.

b. The owner or operator of each MSWIALF unit required to undertake a corrective action program under 13.58. of this part must establish, in a manner in accordance with 13.74., financial assurance for the most recent corrective action program. The owner or operator must provide continuous coverage for

corrective action until released from financial assurance requirements for corrective action by demonstrating compliance with 13.58.f. and g.

13.74. ALLOWABLE MECHANISMS

The mechanisms used to demonstrate financial assurance under this section must ensure that the funds necessary to meet the costs of closure, post-closure care, and corrective action for known releases will be available whenever they are needed. Owners and operators must choose from the options specified in paragraphs a. through j. of this section.

a. Trust Fund.

(1) An owner or operator may satisfy the requirements of this section by establishing a trust fund which conforms to the requirements of this paragraph. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency. A copy of the trust agreement must be placed in the facility's operating record.

(2) Payments into the trust fund must be made annually by the owner or operator over the term of the initial permit or over the remaining life of the MSWIALF unit, whichever is shorter, in the case of a trust fund for closure or post-closure care, or over one-half of the estimated length of the corrective action program in the case of corrective action for known releases. This period is referred to as the pay-in period.

(3) For a trust fund used to demonstrate financial assurance for closure and post-closure care, the first payment into the fund must be at least equal to the current cost estimate for closure or post-closure care, except as provided in paragraph (j) of this section, divided by the number of years in the pay-in period as defined in paragraph (a)(2) of this section. The amount of subsequent payments must be determined by the following formula:

$$\text{Next Payment} = \frac{\text{CE}-\text{CV}}{\text{Y}}$$

where CE is the current cost estimate for closure or post-closure care (updated for inflation or other changes), CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) For a trust fund used to demonstrate financial assurance for corrective action, the first payment into the trust fund must be at least equal to one-half of the current cost estimate for corrective action, except as provided in paragraph j. of this section, divided by the number of years in the corrective action pay-in period as defined in paragraph a.(2) of this section. The amount of subsequent payments must be determined by the following formula:

$$\text{Next Payment} = \frac{\text{RB}-\text{CV}}{\text{Y}}$$

where RB is the most recent estimate of the required trust fund balance for corrective action (i.e., the

total costs that will be incurred during the second half of the corrective action period), CV is the current value of the trust fund, and Y is the number of years remaining on the pay-in period.

(5) The initial payment into the trust fund must be made before the initial receipt of waste or before the effective date of this section, whichever is later, in the case of closure and post-closure care, or no later than one hundred twenty (120) days after the corrective action remedy has been selected in accordance with the requirements of 13.58.

(6) If the owner or operator establishes a trust fund after having used one or more alternate mechanisms specified in this section, the initial payment into the trust fund must be at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to the specifications of this paragraph and 270.74.a. of this section, as applicable.

(7) The owner or operator, or other person authorized to conduct closure, post-closure care, or corrective action activities may request reimbursement from the trustee for these expenditures. Requests for reimbursement will be granted by the trustee only if sufficient funds are remaining in the trust fund to cover the remaining costs of closure, post-closure care, or corrective action, and if justification and documentation of the cost is placed in the operating record. The owner or operator must notify the Department that the documentation of the justification for reimbursement has been placed in the operating record and that reimbursement has been received.

(8) The trust fund may be terminated by the owner or operator only if the owner or operator substitutes alternate financial assurance as specified in this section or if he is no longer required to demonstrate financial responsibility in accordance with the requirements of 13.71.b., 13.72.b., or 13.73.b.

b. Surety Bond Guaranteeing Payment or Performance.

(1) An owner or operator may demonstrate financial assurance for closure or post-closure care by obtaining a payment or performance surety bond which conforms to the requirements of this paragraph. An owner or operator may demonstrate financial assurance for corrective action by obtaining a performance bond which conforms to the requirements of this paragraph. The bond must be effective before the initial receipt of waste or before the effective date of this section, whichever is later, in the case of closure and post-closure care, or no later than one hundred twenty (120) days after the corrective action remedy has been selected in accordance with the requirements of 13.58. The owner or operator must notify the Department that a copy of the bond has been placed in the operating record. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The penal sum of the bond must be in an amount at least equal to the current closure, post-closure care or corrective action cost estimate, whichever is applicable, except as provided in 13.74.k.

(3) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(4) The owner or operator must establish a standby trust fund. The standby trust fund must

meet the requirements of 13.74.a. except the requirements for initial payment and subsequent annual payments specified in 13.74.a.(2), (3), (4) and (5).

(5) Payments made under the terms of the bond will be deposited by the surety directly into the standby trust fund. Payments from the trust fund must be approved by the trustee.

(6) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner and operator and to the Department 120 days in advance of cancellation. If the surety cancels the bond, the owner or operator must obtain alternate financial assurance as specified in this section.

(7) The owner or operator may cancel the bond only if alternate financial assurance is substituted as specified in this section or if the owner or operator is no longer required to demonstrate financial responsibility in accordance with 13.71.b., 13.72.b. or 13.73.b.

c. Letter of Credit.

(1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit which conforms to the requirements of this paragraph. The letter of credit must be effective before the initial receipt of waste or before the effective date of this section, whichever is later, in the case of closure and post-closure care, or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of 13.58. The owner or operator must notify the Department that a copy of the letter of credit has been placed in the operating record. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a Federal or State agency.

(2) A letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: name, and address of the facility, and the amount of funds assured, must be included with the letter of credit in the operating record.

(3) The letter of credit must be irrevocable and issued for a period of at least one (1) year in an amount at least equal to the current cost estimate for closure, post-closure care or corrective action, whichever is applicable, except as provided in 13.74.k. The letter of credit must provide that the expiration date will be automatically extended for a period of at least one year unless the issuing institution has canceled the letter of credit by sending notice of cancellation by certified mail to the owner and operator and to the Department one hundred twenty (120) days in advance of cancellation. If the letter of credit is canceled by the issuing institution, the owner or operator must obtain alternate financial assurance.

(4) The owner or operator may cancel the letter of credit only if alternate financial assurance is substituted as specified in this section or if the owner or operator is released from the requirements of this section in accordance with 13.71.b., 13.72.b. or 13.73.b.

d. Insurance.

(1) An owner or operator may demonstrate financial assurance for closure and post-closure care by obtaining insurance which conforms to the requirements of this paragraph. The insurance must be effective before the initial receipt of waste or before the effective date of this section, whichever is later.

At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States. The owner or operator must notify the Department that a copy of the insurance policy has been placed in the operating record.

(2) The closure or post-closure care insurance policy must guarantee that funds will be available to close the MSWIALF unit whenever final closure occurs or to provide post-closure care for the MSWIALF unit whenever the post-closure care period begins, whichever is applicable. The policy must also guarantee that once closure or post-closure care begins, the insurer will be responsible for the paying out of funds to the owner or operator or other person authorized to conduct closure or post-closure care, up to an amount equal to the face amount of the policy.

(3) The insurance policy must be issued for a face amount at least equal to the current cost estimate for closure or post-closure care, whichever is applicable, except as provided in 13.74.k. The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(4) An owner or operator, or any other person authorized to conduct closure or post-closure care, may receive reimbursements for closure or post-closure expenditures, whichever is applicable. Requests for reimbursement will be granted by the insurer only if the remaining value of the policy is sufficient to cover the remaining costs of closure or post-closure care, and if justification and documentation of the cost is placed in the operating record. The owner or operator must notify the Department that the documentation of the justification for reimbursement has been placed in the operating record and that reimbursement has been received.

(5) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided that such consent is not unreasonably refused.

(6) The insurance policy must provide that the insurer may not cancel, terminate or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may cancel the policy by sending notice of cancellation by certified mail to the owner and operator and to the Department one hundred twenty (120) days in advance of cancellation. If the insurer cancels the policy, the owner or operator must obtain alternate financial assurance as specified in this section.

(7) For insurance policies providing coverage for post-closure care, commencing on the date that liability to make payments pursuant to the policy accrues, the insurer will thereafter annually increase the face amount of the policy. Such increase must be equivalent to the face amount of the policy, less any payments made, multiplied by an amount equivalent to eighty-five (85) percent of the most recent investment rate or of the equivalent coupon-issue yield announced by the U.S. Treasury for 26-week Treasury securities.

(8) The owner or operator may cancel the insurance policy only if alternate financial assurance is substituted as specified in this section or if the owner or operator is no longer required to demonstrate

financial responsibility in accordance with the requirements of 13.71.b., 13.72.b. or 13.73.b.

e. Corporate Financial Test.

[reserved]

f. Local Government Financial Test.

[reserved]

g. Corporate Guarantee.

[Reserved]

h. Local Government Guarantee.

[Reserved]

i. State Approved Mechanism. An owner or operator may satisfy the requirements of this section by obtaining any other mechanism that meets the criteria specified in 13.74.l., and that is approved by the Department.

j. State Assumption of Responsibility. If the Department either assumes legal responsibility for an owner or operator's compliance with the closure, post-closure care and/or corrective action requirements of this part, or assures that the funds will be available from State sources to cover the requirements, the owner or operator will be in compliance with the requirements of this section. Any State assumption of responsibility must meet the criteria specified in 13.74.l.

k. Use of Multiple Financial Mechanisms. An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. The mechanisms must be as specified in paragraphs a., b., c., d., e., f., g., h., i. and j. of this section, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current cost estimate for closure, post-closure care or corrective action, whichever is applicable. The financial test and a guarantee provided by a corporate parent, sibling, or grandparent may not be combined if the financial statements of the two firms are consolidated.

l. The language of the mechanisms listed in paragraphs a., b., c., d., e., f., g., h., i. and j. of this section must ensure that the instruments satisfy the following criteria:

(1) The financial assurance mechanisms must ensure that the amount of funds assured is sufficient to cover the costs of closure, post-closure care, and corrective action for known releases when needed;

(2) The financial assurance mechanisms must ensure that funds will be available in a timely fashion when needed;

(3) The financial assurance mechanisms must be obtained by the owner or operator by the effective date of these requirements or prior to the initial receipt of solid waste, whichever is later, in the case of closure and post-closure care, and no later than one hundred twenty (120) days after the corrective action remedy has been selected in accordance with the requirements of 13.58., until the owner or operator is released from the financial assurance requirements under 13.71., 13.72. and 13.73.

(4) The financial assurance mechanisms must be legally valid, binding, and enforceable under State and Federal law.

SUBPART H - PERMIT APPLICATION

13.75. PERMIT APPLICATION REQUIREMENTS

a. Applications for a permit to construct and operate a new MSWIALF, or a lateral expansion of an existing MSWIALF shall contain at a minimum the following:

- (1) A Landfill Siting Study.
- (2) A Disclosure Statement.
- (3) A document demonstrating compliance with applicable Solid Waste Management Plans.
- (4) A completed Permit Application Form.

b. Upon receipt of written notice from the Department to the applicant that the issues contained in 13.75.a. have been satisfactorily addressed, and the site is determined to be suitable for the intended purpose, the following information shall be submitted to the Department.

- (1) Notification of initiation of the facility issues negotiation process.
- (2) Engineering Drawings that set forth the proposed landfill location, property boundaries, adjacent land uses and construction details.
- (3) Operation Plans that prescribe how the landfill will fulfill the requirements of protecting human health and the environment.
- (4) A Landscape Plan prepared to address adequate seeding or screening of the site.
- (5) An Engineering Report comprehensively describing the existing site conditions and an analysis of the landfill, including closure and post-closure criteria.
- (6) A Quality Assurance/Quality Control Report prepared in accordance with all standardly accepted QA/QC practices.
- (7) An Operation and Maintenance Report prepared to demonstrate how the landfill will meet all the operational requirements.

- (8) A Contingency Plan.
- (9) A Groundwater Monitoring Plan.
- (10) A Closure Plan.
- (11) A Post-Closure Care Plan.

d. The permit application package required by 13.75.b. shall be submitted by and signed and stamped by a professional engineer duly licensed to practice in the state of South Carolina. All individual drawings and plans shall be signed and stamped separately by the professional engineer.

13.76. LANDFILL SITING STUDY

a. All new MSWIALF's and lateral expansions of existing MSWIALF's shall complete a landfill siting investigation, which shall contain at a minimum, the following steps:

(1) A preliminary hydrogeologic characterization report on the site, which contains readily available information on the regional, local, and site hydrogeology and groundwater use. The preliminary hydrogeologic characterization report shall be used to eliminate hydrogeologically unsuitable sites, and to determine if site conditions warrant further investigation.

(2) Pending approval of the preliminary hydrogeologic characterization report, a work plan detailing the site specific hydrogeologic investigations to be performed at the site shall be submitted to the Department for review and approval.

(3) Upon approval of the work plan specified in 13.76.a.(2), a site hydrogeologic characterization report shall be prepared and submitted to the Department detailing the findings of the site specific investigations. During review by the Department of the suitability of the site based on the site hydrogeologic characterization report, the permit applicant may proceed with site design, and submittal of a groundwater monitoring plan as specified in 13.88. Approval of the site will be required before the Department will comment on engineering plans associated with construction of the facility.

b. The landfill siting investigation shall ensure that the proposed landfill location complies with sections 13.11. through 13.15. and section 13.17.

13.77. DISCLOSURE STATEMENT

a. Upon notification of the Department of the intent to site a municipal solid waste incinerator ash landfill, the applicant shall submit a disclosure statement as outlined in section 44-96-300 of the 1976 Code of Laws. The Department may accept one disclosure statement for multiple facility permit applicants. This section shall not apply if the applicant is a local government or a region comprised of local governments. The disclosure statement shall contain the following information with regard to the applicant and his responsible parties:

- (1) the full name, business address, and social security number of all responsible parties;
- (2) a description of the experience and credentials, including any past or present permits or licenses for the collection, transportation, treatment, storage, or disposal of solid waste issued to or held by the applicant within the past five (5) years;
- (3) a listing and explanation of all convictions by final judgement of a responsible party in a state or federal court, whether under appeal or not, of a crime of moral turpitude punishable by a fine of five thousand dollars (\$5,000.00) or more or imprisonment for one year or more, or both, within five (5) years immediately preceding the date of the submission of the permit application.
- (4) a listing and explanation of all convictions by final judgement of a responsible party in a state or federal court, whether under appeal or not, of a criminal or civil offense involving a violation of an environmental law punishable by a fine of five thousand dollars (\$5,000.00) or more or imprisonment for one year or more, or both, in a state or federal court within five (5) years of the date of submission of the permit application;
- (5) a listing and explanation of the instances in which a disposal facility permit held by the applicant was revoked by final judgement in a state or federal court, whether under appeal or not, within five (5) years of the date of submission of the permit application; and
- (6) a listing and explanation of all adjudications of the applicant for having been in contempt of any valid court order enforcing any federal environmental law or any state environmental law relative to the activity for which the permit is being sought, within five (5) years of the date of submission of the permit application.

13.78. COMPLIANCE WITH SOLID WASTE MANAGEMENT PLANS

- a. The permit applicant shall demonstrate compliance with the State Solid Waste Management Plan in effect at the time of submittal of the demonstration to the Department.
- b. The permit applicant shall demonstrate compliance with the County or Regional Solid Waste Management Plan in effect at the time of submittal of the demonstration to the Department.

13.79. PERMIT APPLICATION FORM

- a. The permit applicant shall submit a completed permit application, on a form provided by the Department, as a part of the permit application package specified in 13.75. The permit application form may not require any information not specifically required by these regulations.

13.80. FACILITY ISSUES NEGOTIATION PROCESS

- a. The permit applicant shall submit to the Department concurrent with or prior to submittal of the information required in 13.75.b., demonstration and documentation that the facility issues negotiation process has been initiated in accordance with section 44-96-470 of the 1976 Code of Laws.

b. Upon completion of the facility issues negotiation process, the facilitator shall provide to the Department a summary of the results of the negotiations within fourteen (14) days of the certification of the facilitator's final report of resolution of the host local government as required by Section 44-96-470 (O) of the Solid Waste Policy and Management Act of 1991.

13.81. ENGINEERING DRAWINGS

a. The engineering drawings must contain the following:

(1) A vicinity plan or map that must show the area within one mile of the property boundaries of the landfill in terms of: the existing and proposed zoning and land uses within that area at the time of permit application; and residences, public and private water supply wells, known aquifers, and surface waters (with quality classifications), access roads, bridges, railroads, airports, historic sites, and other existing and proposed man-made or natural features relating to the facility.

(2) Site plans that must show: the landfill's property boundaries, as certified by an individual licensed to practice land surveying in the State of South Carolina, off-site and on-site utilities (such as, electric, gas, water, storm, and sanitary sewer systems) and right-of-ways, easements; the names and addresses of abutting property owners; the location of soil borings, excavations, test pits, gas venting structures, wells, piezometers, environmental and facility monitoring points and devices, (with each identified with a permanent marking system, and horizontal and vertical location shown, as measured from the ground surface and top of well casing), benchmarks and permanent survey markers, and on-site buildings and appurtenances, fences, gates, roads, parking areas, drainage culverts, and signs; the delineation of the total landfill area including planned staged development of the landfill's construction and operation, and the lateral limits of any previously filled areas; the location and identification of the sources of cover materials; and site topography with five (5) feet minimum contour intervals, and any other relevant information.

(3) Detailed plans of the landfill must clearly show in plan and cross sectional views the following: the original, undeveloped site topography before excavation or placement of ash; the existing site topography, if different including the location and approximate thickness and nature of any existing solid waste; the high groundwater table; geologic units; known and interpolated bedrock elevations; the proposed limits of excavation and waste placement; the location and placement of each liner system and of each leachate collection system, locating and showing all critical grades and elevations of the collection pipe inverts and drainage envelopes, manholes, cleanouts, valves, sumps, other devices as needed to divert or collect surface water run-on or run-off; the final elevations and grades of the landfill; groundwater monitoring, leachate storage, treatment and disposal systems including the collection network, sedimentation ponds and any treatment, pre-treatment, or storage facilities; roadway sections, dimensions, slopes and profile; the building locations and appurtenances.

13.82. OPERATIONAL PLAN

a. The project's operational plan shall be presented in a manner sufficiently clear and comprehensive for use by the landfill's operator during the life of the landfill; and depict in plan and cross-sectional views the fill progression with respect to site life; and contain:

- (1) A description of the site's preparation and fill progression for the life of the site in terms of method, depth, location and sequence.
- (2) a method of elevation control for the operator including the location and description of the permanent surveying benchmark at the site; and
- (3) a fill progression discussion describing the placement and compacted thickness of daily, intermediate and final cover.

13.83. LANDSCAPE PLAN

a. A landfill's landscape plan must:

- (1) identify and locate existing vegetation to be retained and proposed vegetation to be used for cover, screening, and other purposes;
- (2) provide a seeding and planting schedule, including the identification of the rationale for the seed mixture choice and fertilization and procedures for seed application, mulching, and maintenance; and
- (3) describe the planting plan and schedule which identifies plants to be used consistent with future use proposals.

13.84. ENGINEERING REPORT

a. An engineering report containing a description of the existing site conditions and an analysis of the proposed landfill must be submitted. The report shall:

- (1) specify the filling rate (in tons per day) of the landfill for which approval is being sought, describing the number, types, and specifications of all necessary machinery and equipment needed to effectively operate the landfill at the prescribed filling rate;
- (2) contain a detailed description of all construction phases, including, but not limited to, the liner system, leachate collection system, and final cover system, and;
- (3) contain a site analysis of the proposed action including:
 - (a) the location of the closest population centers;
 - (b) a description of the primary transportation systems and routes of waste being transported to the landfill (ie., highways, airports, railways, etc.);
 - (c) An analysis of the existing topography, surface water and subsurface geological conditions;
 - (d) a description of the materials and construction methods for the placement of: each monitoring well, each liner and leachate collection and removal system, leachate storage, treatment, and

disposal systems, and cover systems. This description also must include a discussion of provisions to be taken to prevent frost action upon each liner system in areas where refuse has not been placed;

(e) an estimate of the expected quantity of leachate to be generated, including:

(i) an annual water budget, estimating leachate generation quantities must be prepared for periods of time of initial operation and application of intermediate cover and following facility closure. At a minimum, the following factors must be considered in the preparation of the precipitation infiltration into the landfill: average monthly temperature, average monthly precipitation, evaporation, evapotranspiration which should consider the vegetation type and root zone depth, surface/cover soil conditions and their relation to precipitation runoff which must account for the surface conditions and soil moisture holding capacity and all other sources of moisture contribution to the landfill;

(ii) liner and leachate collection system efficiencies must be calculated using an appropriate analytical or numerical assessment. The factors to be considered in the calculation of collection system efficiency must include, as a minimum, the saturated hydraulic conductivity of the liner, the liner thickness, the saturated hydraulic conductivity of the leachate collection system, the leachate collection system porosity, the base slope of the liner and leachate collection and removal system interface, the maximum flow distance across the liner and leachate collection and removal system interface to the nearest leachate collection pipe, the estimated leachate generation quantity as computed in accordance with the requirements of the preceding subparagraph; and

(iii) information gained from the collection efficiency calculations required in the preceding two subparagraphs must be used to predict the static head of leachate on the liners, volume of leachate to be collected, and the volume of leachate that may permeate through the entire liner system on a monthly basis. This assessment must also address the amount of leachate expected to be found in the leachate collection and removal system in gallons per acre per day;

(f) the design of the leachate storage facility must be based upon the leachate generation calculation. The design capacity for the leachate storage facility must be based on the proposed leachate disposal method which must allow sufficient lead time for either:

(i) development of a separate set of engineering reports, plans and specifications for the construction and operation of a leachate treatment facility on-site and to obtain approval of this document before any discharge from the leachate storage facility; or

(ii) development of a plan to handle leachate destined for off-site treatment at a wastewater treatment facility, including a legal document (contract, local permit, etc.) certifying acceptance of leachate from the operator of the wastewater treatment facility with all conditions stipulated by the operator of the wastewater treatment facility and all such stipulations addressed in the operations plan, and to ensure that the amount of leachate stored on-site is not in excess of the storage capacity available;

(g) a description of the contingency plan for the construction phase that must describe procedures for responding to construction deficiencies resulting from circumstances including, but not limited to, inclement weather, defective materials or construction inconsistent with specifications as demonstrated by quality control testing. The plan must provide a description of the criteria to be utilized in evaluating deficiencies, and selecting and implementing corrective actions;

(h) discuss the closure and post-closure maintenance and operation of the landfill which must include, but not be limited to:

(i) a closure design consistent with the requirements contained in this regulation.

(ii) A post-closure water quality monitoring program consistent with requirements contained in this regulation.

(iii) An operation and closure plan for the leachate collection, treatment, and storage facilities consistent with the requirements of this regulation.

(iv) A discussion of the future use of the site including the specific proposed or alternative uses. Future uses must conform to the landscape plan, required by this regulation and must not adversely affect the final cover system;

(i) include appendices demonstrating compliance with pertinent local laws and regulation pertaining to air, land, noise, and water pollution, and other supporting data, including literature citations.

13.85. QUALITY ASSURANCE/QUALITY CONTROL REPORT

a. The project's Quality Assurance (QA) and Quality Control (QC) report shall address the construction requirements set forth in this document for each phase of construction, this plan must include, but not be limited to:

(1) a delineation of the QA and QC management organization, including the chain of command of the QA and QC inspectors and contractors;

(2) a description of the required level of experience and training for the contractor, his crew, and QA/QC inspectors for every major phase of construction in sufficient detail to demonstrate that the

installation methods and procedures required in this document will be properly implemented; and

(3) a description of the QA and QC testing protocols for every major phase of construction, including, but is not limited to, the base liner system, leachate collection system, and final cover system, which must include at a minimum: the frequency of inspection, field testing, sampling for laboratory testing, the sampling and field testing procedures and equipment to be utilized, the calibration of field testing equipment, the frequency of performance audits, the sampling size, the soils or geotechnical laboratory to be used, the laboratory procedures to be utilized, the calibration of laboratory equipment and QA/QC of laboratory procedures, the limits for test failure and a description of the corrective procedures to be used upon test failure.

13.86. OPERATION AND MAINTENANCE REPORT

a. The operation and maintenance report for the landfill must include, at a minimum, the following:

(1) A description of the project's personnel requirements, stating personnel responsibilities and duties including discussions for training and lines of authority at the landfill;

(2) a description of all machinery and equipment to be used at the landfill, their authorized uses, and safety features;

(3) a description of the operational controls, including but not limited to signs, hours and days of operation, landfill usage rules and regulations, and traffic flow controls;

(4) a characterization of the anticipated amount of ash to be received per day, specifying the quantities received in tons per day, the fill progression of the landfill, and the method of ash placement and compaction, and the anticipated in-place density;

(5) a description of the landfill's ash receiving process, including inspection of incoming loads, identification of any waste streams to be excluded, and any ash to receive special handling, or to require treatment before receipt;

(6) a description of the cover material management plan, specifying the types of cover material (daily, intermediate, and final) identifying the quantities required and sources for each cover material by type including the method of cover material placement, compaction, and the anticipated density; and,

(7) a description of how winter and inclement weather operations will be conducted.

13.87. CONTINGENCY PLAN

a. The contingency plan must discuss an organized, planned and coordinated, technically and financially feasible course of action to be taken in responding to contingencies during the construction and/or operation of a landfill. The plan must address, at a minimum, actions to be taken with respect to personnel and user safety; on-site personal injury; fires; dust; litter; odor; noise; equipment breakdown; unusual traffic conditions; vectors; disposition of unapproved wastes; receipt of unauthorized wastes; releases of hazardous or toxic materials; groundwater and surface water contamination which may include

public water supply contamination as a result of an accidental spill; and the occurrence of the leachate storage facility being at or above capacity. The contingency plan must specify the procedures to be used in response to: tank and surface impoundment spills or leakage, including removal of the waste and repair of such structures, and the event that the approved leachate treatment facility cannot accept leachate from the landfill for an indefinite period of time.

13.88. GROUNDWATER MONITORING PLAN

a. Upon obtaining approval of the investigations performed to satisfy section 13.76., a groundwater monitoring plan shall be submitted to the Department for review and approval. The groundwater monitoring plan shall detail the activities to be performed to ensure compliance with the requirements of 13.51. (Groundwater Monitoring), 13.53. (Groundwater Sampling and Analysis Requirements), and 13.54. (Detection Monitoring).

13.89. CLOSURE PLAN

a. A closure plan shall be included in the permit application that details the activities that will be performed to satisfy the requirements of section 13.60.

13.90. POST-CLOSURE CARE PLAN

a. A post-closure care plan shall be included in the permit application that details the activities that will be performed to satisfy the requirements of section 13.61.

SUBPART I

13.91. VIOLATIONS AND PENALTIES

a. A violation of this regulation subjects the owner of the municipal solid waste incinerator ash landfill to the issuance of a Department order, or to a civil or criminal enforcement action by the Attorney General's office. In addition, the Department may impose reasonable civil penalties not to exceed ten thousand dollars (\$10,000.00) for each day of violation of the provisions of this regulation, including any order, permit or standard. After exhaustion of administrative remedies, a person against whom a civil penalty is evoked by the Department may appeal the decision of the Department or Board to the court of common pleas.

SUBPART J

13.92. FEES [Reserved]

SUBPART K

13.93. TONNAGE LIMITS

a. The Department shall prior to issuance of a permit for a new or expanded facility, determine an allowable rate of disposal based on the facilities design capacity, expected operational life, and the area to be served by the facility as outlined in the demonstration of need as required by Code Section 44-96-290.

Any landfill permit issued shall include an allowable rate of disposal on a tons per year basis. The tonnage limit may be altered based upon population changes in the area to be served, or for special circumstances due to Acts of God.

SUBPART L

13.94. PERMIT CONDITIONS AND PERMIT REVIEW

a. Applications for permits shall be provided by the Department and shall be submitted with sufficient detail to support a judgement that operation of the disposal system will not violate the Acts or regulations of the State of South Carolina. The application shall be signed by the owner and operator of the MSWIALF. The approved application and associated plans and drawings shall be an enforceable part of the permit.

b. The Department shall review the permit for each MSWIALF at least once every five (5) years, unless otherwise specified by the Department.

(1) If, upon review, the Department finds that material or substantial violations of the permit demonstrate the permittee's disregard for, or inability to comply with applicable laws, regulations, or requirements and would make continuation of this permit not in the best interests of human health and safety or the environment, the Department may, after a hearing, amend or revoke the permit, as appropriate and necessary. When a permit is reviewed, the Department shall include additional limitations, standards, or conditions when the technical limitations, standards, or regulations on which the original permit was based have been changed by statute or amended by regulation.

(2) The Department may amend or attach conditions to a permit when:

(a) There is a significant change in the manner and scope of operation which may require new or additional permit conditions or safeguards to protect human health and safety and the environment;

(b) The investigation has shown the need for additional equipment, construction, procedures, and testing to ensure the protection of human health and safety and the environment; and,

(c) The amendment is necessary to meet changes in applicable regulatory requirements.

c. Any permits issued pursuant to this regulation will not be valid after a period of twelve (12) months of the date of issuance if construction of the facility has not begun by the end of this period.

SUBPART M

13.95. SEVERABILITY

a. Should any section, paragraph, sentence, clause or phrase of this regulation be declared unconstitutional or invalid for any reason, the remainder of this regulation shall not be affected thereby.

SUBPART N

13.96. APPEALS

a. An Appeal from denial of a permit shall be deemed a "contested case" as defined in S.C. Code Ann. Section 1-23-310 (2).

Appendix I Detection Groundwater Monitoring Parameters Municipal Solid Waste Incinerator Ash Landfills

Constituents

Aluminum	Calcium
Arsenic	Chloride
Barium	Nitrate
Cadmium	Potassium
Chromium	Sodium
Copper	Sulfate
Iron	Total Dissolved Solids
Lead	Alkalinity
Manganese	Cyanide
Mercury	pH (field)
Nickel	Specific Conductance
Selenium	
Silver	
Zinc	

All metals concentrations are to be from unfiltered samples.

Appendix II Assessment Groundwater Monitoring Parameters Municipal Solid Waste Incinerator Ash Landfills

Aluminum	Calcium
Arsenic	Chloride
Barium	Nitrate
Cadmium	Potassium
Chromium	Sodium
Copper	Sulfate
Iron	Total Dissolved Solids
Lead	Alkalinity
Manganese	Cyanide
Mercury	pH (field)
Nickel	Specific Conductance
Selenium	
Silver	
Zinc	

Base-Neutral Extractable Organics Compounds

Acenaphthene	Nitrobenzene
Benzidine	N-nitrosodimethylamine
1,2,4-trichlorobenzene	N-nitrosodiphenylamine
Hexachlorobenzene	N-nitrosodi-n-propylamine
Hexachloroethane	Butyl benzyl phthalate
Bis (2-chloroethyl) ether	Di-n-butyl phthalate
2-chloronaphthalene	Di-n-octyl phthalate
1,2-dichlorobenzene	Diethyl phthalate
1,3-dichlorobenzene	Dimethyl phthalate
1,4-dichlorobenzene	Benzo(a)anthracene
3,3-dichlorobenzidine	Benzo(a)pyrene
2,4-dinitrotoluene	3,4-benzofluoranthene
2,6-dinitrotoluene	Benzo(k)fluoranthene
1,2-diphenylhydrazine	Chrysene
Fluoranthene	Acenaphthylene
4-chlorophenyl phenyl ether	Anthracene
4-bromophenyl phenyl ether	Benzo(ghi)perylene
Bis (2-chloroisopropyl) ether	Fluorene
Bis (2-chloroethoxy) methane	Phenanthrene
Hexachlorobutadiene	Dibenzo(a,h)anthracene
Hexachlorocyclopentadiene	Ideno(1,2,3-cd) pyrene
Isophorone	Pyrene
Naphthalene	Bis (2-ethylhexyl) phthalate

Acid Extractable Organic Compounds

2,4,6-trichlorophenol	4-nitrophenol
parachlorometa cresol	2,4-dinitrophenol
2-chlorophenol	4,6-dinitro-o-cresol
2-nitrophenol	2,4-dichlorophenol
pentachlorophenol	phenol
2,4-dimethyphenol	

R. 61-107.14. Solid Waste Management: Municipal Solid Waste Landfill Operator's Certification.

A. Applicability. This regulation establishes minimum training and certification requirements for operators of municipal solid waste landfills and municipal solid waste incinerator ash landfills.

B. Definitions.

1. "Department" means the South Carolina Department of Health and Environmental Control.

2. "Municipal solid waste" means any solid waste (including garbage, trash, and sanitary waste in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas), generated by commercial establishments (stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding industrial facilities) and nonhazardous sludge.

3. "Municipal solid waste incinerator ash landfill" means any landfill or landfill unit, publicly or privately owned, that receives the solid residue from incinerators that burn municipal solid waste.

4. "Municipal solid waste landfill" means any sanitary landfill or landfill unit, publicly or privately owned, that receives household waste. The landfill may also receive other types of solid waste, such as commercial waste, nonhazardous sludge, and industrial solid waste.

5. "Operator" for the purposes of this regulation, means any person, including the owner, who is principally engaged in, or is in charge of, the actual operation, supervision, and maintenance of a municipal solid waste landfill or a municipal solid waste incinerator ash landfill and includes the person in charge of a shift or period during any part of the day. Operators will be classified by the following two (2) categories:

a. "Manager" means the person(s) with responsibility for the overall management of the facility; and,

b. "Supervisor" means the person(s) with supervisory responsibility for a specific facility site or shift.

6. "Sanitary landfill" means a land disposal site employing an engineered method of disposing of solid waste on land in a manner that minimizes environmental hazards and meets the design and operation requirements of State regulations.

7. "Workers" for the purposes of this regulation, means the persons performing the daily maintenance activities at the landfill.

C. General Provisions.

1. No person shall perform the duties of manager or supervisor of a municipal solid waste landfill or a municipal solid waste incinerator ash landfill (MSWIAL) unless he/she is duly certified by the State of South Carolina as a Landfill Operator.

2. Landfill operator's training and certification requirements shall be classified by the following categories:

a. Manager; and,

b. Supervisor.

3. Municipal solid waste landfill and MSWIAL managers and supervisors shall be trained and tested by a Department-approved training program and upon satisfactory completion of the course material and

examination, shall be certified by the Department.

4. Operator certification examinations:

a. The operator certification examinations will be based on the appropriate basic operator training course curriculum.

b. An applicant who completes the training course but fails to pass the required examination within one year of the initial employment date shall not work in the capacity of a manager or supervisor at a municipal solid waste landfill and/or a MSWIAL until repeating the Department-approved operator's certification course and subsequently passing the certification examination.

5. All Department issued operator's certifications shall be renewed every three (3) years.

6. A certified manager or supervisor shall be on duty during all hours of operation of a municipal solid waste landfill and a MSWIAL.

7. Certified managers and supervisors shall refuse waste deemed unacceptable for that landfill.

D. Manager.

1. The manager of a landfill shall successfully complete a Department-approved training course and examination within one (1) year of the initial employment date.

2. Managers who have current Solid Waste Association of North America (SWANA or GRCDA) certification may request reciprocity for South Carolina certification, in lieu of completing the required training course and examination. The request for reciprocity shall be made within ninety (90) days from the initial employment date into the manager position. Documentation, i.e. a copy of SWANA or GRCDA Certification, verification of initial employment date, and a request for reciprocity shall be submitted to the Department. If the employee fails to submit the request within the allotted ninety (90) day timeframe, he/she shall be required to successfully complete the training course, pursuant to Item D.1. above, in order to remain in the manager landfill position.

3. Fifteen (15) contact hours of continuing education, or 1.5 continuing education units (CEUs) from an approved source shall be completed by the manager prior to each renewal. The manager shall request and receive Department approval for the courses. Acceptability of courses for earning CEUs as required for certification renewal shall be determined by the Department. CEUs shall not be carried over from a three (3) year period into the next three (3) year renewal period.

4. CEUs and certification renewal:

a. The manager shall be responsible for submitting the following information concerning earned CEUs in order to maintain accurate Department records for certification renewal:

(1) Manager's name and certification number; and,

(2) A copy of the certificate, or other documentation indicating completion of a specific course and the number of CEUs earned.

b. Failure to earn the required number of CEUs and/or report this information to the Department shall result in revocation of certification.

5. Managers shall be knowledgeable of the following areas:

a. Regulations in reference to:

(1) Federal;

(2) State:

(a) agency responsible;

(b) definitions; and,

(c) requirements;

(3) OSHA - Safety to include:

(a) compliance with Hazard Communication Standard (29 CFR 1910.1200) and all other OSHA standards;

(b) carrying out the Emergency Response Plan; and,

(c) ensuring that all safety precautions are observed;

b. Role of municipal solid waste landfills in reference to:

(1) Generation of solid wastes;

(2) Physical and chemical composition and decomposition of waste;

(3) Waste identification in reference to:

(a) solid waste;

(b) hazardous waste; and,

(c) infectious waste; and,

(4) Handling of special wastes;

c. Landfill development phase to include:

- (1) Site selection;
 - (2) Waste decomposition:
 - (a) landfill gas generation and migration;
 - (b) leachate generation and migration; and,
 - (c) control;
 - d. Landfill operations phase to include:
 - (1) Monitoring equipment and systems;
 - (2) Cover systems;
 - (3) Liners; and,
 - (4) Personnel and equipment concerns;
 - e. Landfill closure phase to include:
 - (1) Complying with engineering design for closure;
 - (2) Long term maintenance;
 - (3) Environmental monitoring;
 - (4) End uses;
 - (5) Final cover design; and,
 - (6) Vegetation; and,
 - f. Landfill post-closure to include financing closure and post-closure care.
5. Managers shall ensure that landfill workers are provided proper training.

E. Supervisor.

- 1. The supervisor of a landfill shall successfully complete a Department-approved training course and examination within one (1) year of the initial employment date.
- 2. Supervisors who have current SWANA or GRCDA certification may request reciprocity for South Carolina certification, in lieu of completing the required training course and examination. The request for

reciprocity shall be made within ninety (90) days of the initial employment date into the supervisor position. Documentation, i.e. a copy of SWANA or GRCDA Certification, verification of initial employment date from the landfill manager, and a request for reciprocity shall be submitted to the Department. If the employee fails to submit the request within the allotted ninety (90) day timeframe, he/she shall be required to successfully complete the training course, pursuant to Item 1. above, in order to remain in the supervisor landfill position.

3. Six (6) contact hours of continuing education or 0.6 CEUs, shall be acquired by the supervisor prior to each renewal. The supervisor shall request and receive Department approval for the courses. Acceptability of courses for earning CEUs as required for certification renewal shall be determined by the Department. CEUs shall not be carried over from a three (3) year period into the next three (3) year renewal period.

4. CEUs and certification renewal:

a. The supervisor shall submit the following information concerning earned CEUs:

- (1) Supervisor's name and certification number; and,
- (2) A copy of the certificate indicating completion of a specific course and the number of CEUs earned.

b. Failure to earn the required number of CEUs and/or report this information to the Department shall result in revocation of certification.

5. The certified supervisor shall be knowledgeable of the following functions:

a. Waste identification in reference to:

- (1) Different types of waste;
- (2) Types of permitted wastes for identification and approval purposes;
- (3) Response to non-permitted wastes; and,
- (4) Monitoring the waste stream;

b. Equipment operation and preventive maintenance to include:

- (1) Checking equipment prior to operation;
- (2) Operating equipment to standards; and,
- (3) Performing preventive maintenance;

c. Safety:

- (1) Identification and use of personal protective equipment;
 - (2) Compliance with Hazard Communication Standard (29 CFR 1910.1200) and all other OSHA standards;
 - (3) Safe operation of equipment/tools;
 - (4) The Emergency Response Plan; and,
 - (5) Ensuring that all safety precautions are observed;
- d. Landfill operation phase to include:
- (1) Operating face requirements;
 - (2) Traffic control at the working face;
 - (3) Techniques for spreading and compacting waste;
 - (4) Cover application; and,
 - (5) Proper handling of special wastes;
- e. Landfill development phase to include:
- (1) Ability to read, interpret, and implement operational and design plans; and,
 - (2) Determination of elevations;
- f. Monitoring in reference to:
- (1) Ensuring the integrity of monitoring equipment and systems; and,
 - (2) Identifying the basic functions of monitoring systems;
- g. Planning daily operations;
- h. Landfill closure phase to include compatibility of daily operations with engineering design for closure;
- i. Landfill post-closure to include compatibility of daily operations with post-closure plans; and,
- j. Regulatory knowledge to ensure compliance with:
- (1) Department inspection criteria for landfills; and,

(2) Basic permit requirements.

6. Supervisors shall ensure that workers are properly trained.

F. Worker.

1. Workers shall receive on-the-job training by either a contracted trainer approved by the Department or the employee's certified supervisor(s).

2. The required basic worker's training shall address the following areas, at a minimum:

a. Waste identification in reference to:

(1) Different types of waste; and,

(2) Types of permitted wastes;

b. Equipment operation and prevention maintenance to include:

(1) Checking equipment prior to operation;

(2) Operating equipment to standards; and,

(3) Performing preventive maintenance;

c. Safety in reference to:

(1) Identification and use of personal protective equipment;

(2) Compliance with Hazard Communication Standard (29 CFR 1910.1200) and all other OSHA standards;

(3) Operation of equipment/tools safely; and,

(4) Worker responsibilities under the Emergency Response Plan; and,

d. Landfill operation phase to include:

(1) Operating face requirements;

(2) Traffic control at the working face;

(3) Techniques for spreading and compacting waste;

(4) Cover application; and,

(5) Proper handling of special wastes.

3. Department staff will observe worker performance to determine compliance with requirements.

G. Disciplinary Action. Disciplinary action against a certified operator may be taken on any of the following grounds:

1. Gross negligence or a continued pattern of incompetence in the practice as a certified operator;
2. Intentionally violating or inducing another to violate the rules and permit conditions applicable to landfill operation;
3. Failure to take appropriate corrective action concerning violations documented during Department inspection(s);
4. Failure to submit required records of operation or other reports or monitoring data as required under applicable permits or Department regulations;
5. Making any false statement, representation, or certification on any application, record, report or document required to be maintained or submitted under any applicable permit or regulation of the Department;
6. Failure to ensure adequate training and supervision of landfill workers; and,
7. Failure to refuse unacceptable waste.

H. Disciplinary Sanctions Allowable and Procedures for Disciplinary Action.

1. Disciplinary action shall be based on the severity of the violation incurred as determined by the Department. Action shall consist of either:

- a. Probation under specified conditions relevant to the specific grounds for disciplinary action. Additional education or training, or reexamination may be required as a condition of probation; or,
- b. Revocation of an operator's certification for a specified timeframe as determined by the Department.

2. The following procedure shall be followed when disciplinary action is initiated:

- a. A Department written notice shall be given to an operator against whom disciplinary action is being taken; and,
- b. Within fifteen (15) days from receipt of written notification of disciplinary action by the Department, the operator may appeal it as a contested case pursuant to R.61-72 and the Administrative Procedures Act.

I. Severability. Should any section, paragraph, sentence, clause or phrase of this regulation be declared unconstitutional or invalid for any reason, the remainder of this regulation shall not be affected thereby.

R.61-107.15 Solid Waste Management: Land Application of Solid Waste.

A. Applicability.

1. The purpose of this regulation is to establish appropriate application rates, frequency of application, and monitoring requirements for the uniform surface spreading or mechanical incorporation of non-hazardous solid waste on, or into, soil that is being used for agricultural, silvicultural and horticultural production. This regulation also applies to the application of solid waste on land that is being reclaimed to enhance its aesthetic value or to reduce environmental degradation. The land application of non-hazardous solid waste shall be for beneficial agricultural, silvicultural and horticultural purposes and not used as a means of disposal.

2. This regulation does not apply to the land application of solid or dissolved material in domestic sewage, industrial sludges, or water treatment sludges.

3. The application of commercial fertilizer, as defined in the South Carolina Fertilizer Law of 1954, S. C. Code Section 46-25-20 et seq. and animal manure during normal agricultural, silvicultural and horticultural operations is exempt from the requirements of this regulation.

4. Refuse, as defined and regulated pursuant to the South Carolina Mining Act, S.C. Code Section 48-20-10 et seq., including processed mineral waste which will not have a significant adverse impact on the environment, is exempt from the requirements of this regulation.

5. This regulation does not apply to the remediation of petroleum contaminated soils.

6. This regulation does not apply to the land application of hazardous waste which must be in compliance with the South Carolina Hazardous Waste Management Regulations.

7. This regulation does not apply to solid waste contaminated with petroleum products, heavy metals, septage, or pesticides regulated by the "Federal Insecticide, Fungicide, Rodenticide Act".

8. This regulation does not apply to the beneficial reuse of solid wastes in processes other than land application, e.g., the addition of ash to concrete and use of solid waste for structural fill.

9. This regulation does not apply to wastes generated as a result of ongoing normal agricultural, silvicultural, and horticultural operations when application is on properties owned and/or operated by the generator.

10. This regulation does not apply to waste generated by a homeowner when the waste is land applied on the site where it is generated.

B. Definitions.

1. "Agricultural Laboratory" means a laboratory that performs a standard agricultural soil test, such as that performed by the Clemson Soil Test Laboratory for the purpose of recommending lime and plant nutrients needed or appropriate for good crop or forest production purposes based on Best Management Practices.
2. "Agricultural land" means any land managed for the production of food, animal feed, or fiber crops, including timber and wood products.
3. "Agronomic rate, silvicultural rate, and horticultural rate" is that application rate of solid waste which supplies the amount of one or more plant nutrients needed for good crop and forest growth or which will neutralize excess soil acidity; but the nutrient requirement is not exceeded to the extent that groundwater exceeds applicable South Carolina groundwater quality standards.
4. "Bark" means the outer covering of the woody stems, branches, roots, and the main trunks of trees and other woody plants.
5. "Certified Laboratory" means a laboratory that has been certified by the State Environmental Laboratory Certification Program to perform specific analyses. All analyses required by this Regulation to be performed by a Certified Laboratory must be done by the methodology outlined in the most current issue of the EPA Publication SW-846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods".
6. "Class I Solid Waste," for the purposes of this regulation, means those solid wastes which have the potential to add some nutrient and/or pH adjustment benefit to the soil and require permitting by the Department prior to land application of that waste , e.g., wood ash, coal ash, green liquor dregs, and slaker grit.
7. "Class II Solid Waste," for the purposes of this regulation, means those solid wastes which, due to lack of substantiating data needed to calculate agronomic rate or to document that the material is non-toxic to plants and wildlife normally associated with the crop ecosystem, require issuance of a Department Research, Development, and Demonstration Permit pursuant to R.61-107.10.
8. "Class III Solid Waste," for the purposes of this regulation, means those solid wastes which have less potential to add nutrients to the soil or correct soil acidity than Class I wastes, and are considered to be innocuous with regard to effects on soil, plants and water resources when applied at approved rates. Prior to application, registration by the Department in lieu of permitting is required for Class III wastes, e.g., cotton mote waste, cotton gin trash, bark, woodyard waste, flume grit.
9. "Class IV Solid Waste," for the purposes of this regulation, means those solid wastes used for land reclamation and other projects when the application rate exceeds ten (10) dry tons per acre per year and scientific/technical data is submitted to ensure the proposed application rate will have no detrimental impact on the environment and public health, and is non-toxic to plants and wildlife normally associated with the crop ecosystem. Class IV solid wastes require permitting by the Department prior to application.
10. "Coal ash" means the residue remaining after combustion of coal and includes bottom ash, fly ash, boiler slag and flue gas desulfurization ("FGD") products.

11. "Commercial fertilizer," as defined in the South Carolina Fertilizer Law of 1954, S.C. Code Section 46-25-20, means any substance containing one or more recognized plant nutrients which are used for plant nutrient content and designed for use or claimed to have value in promoting plant growth, except unmanipulated animal and vegetable manures, marl, lime, limestone, and wood ashes.
12. "Cotton gin trash" means the residual material left as a result of ginning and cleaning cotton; it includes burs, stems, leaves, weed seed, waste cotton fiber, other plant material, and soil.
13. "Cotton mote waste" means the residual material remaining after processing of cotton mote and residue from cotton carding operations; it includes immature cotton fiber and many of the same materials found in cotton gin trash.
14. "Cumulative metal loading rate" means the maximum amount of an element which can be applied to an area of land.
15. "Department" means the South Carolina Department of Health and Environmental Control.
16. "Flume grit" means a mixture of tree bark, sand, soil, small twigs and leaves, and other debris that settles out of water used in a woodyard log flume.
17. "Generator" means any person who produces solid waste that is land applied.
18. "Green liquor dregs" means residues from the paper pulp-making process removed by sedimentation from green liquor clarification. The material is predominantly insoluble carbonates, oxides and sulfates of calcium, magnesium, aluminum and silicon.
19. "Horticultural" means land used for production of flowers, shrubs, fruits and ornamentals.
20. "Inorganic constituent" is one of the ninety-two (92) naturally occurring chemical elements or combination of those elements; generally, this excludes constituents which consist of carbon compounds other than carbonates.
21. "Land application" means the spreading of non-hazardous solid waste on the land surface and/or the mechanical incorporation of non-hazardous solid waste into the soil at agronomic or silvicultural rates.
22. "Land Reclamation" means the restoration of land for useful purposes and protection of the natural resources of the surrounding area by establishing on a continuous basis the vegetative cover, soil stability, water conditions, and the safety conditions of the area.
23. "Lime" means calcium carbonate or other calcium and magnesium compounds or mixtures which are alkaline in nature and used to neutralize excess soil acidity.
24. "Metal," for purposes of these regulation, means any of the eight (8) naturally occurring elements as listed in Section C.13., and which include arsenic, cadmium, copper, lead, mercury, nickel, selenium, and zinc.

25. "Open dumping" means any unpermitted solid waste disposal activity.
26. "Pasture" means land used for grazing livestock or forage crop production.
27. "Permit" means the process by which the Department can ensure cognizance of, as well as control over, the management of solid wastes.
28. "Person" means an individual, corporation, company, association, partnership, unit of local government, state agency, federal agency, or other legal entity.
29. "Representative sample and representative analysis," for the purposes of this regulation, mean that the chemical analyses of at least three samples (each sample being a composite of several subsamples) shall be used to calculate the amount of waste to be applied to a specific area for crop production purposes with a tolerance of 25%, unless otherwise approved by the Department. That tolerance applies to whichever constituent or characteristic, such as alkalinity, metal concentration, or nitrogen content, that limits or establishes the application rate.
30. "Silvicultural" means land used for growing trees, i.e., forestry.
31. "Slaker grit" means the unburned residues and particulate, predominantly carbonates, oxides and sulfates of calcium, magnesium and sodium removed from the causticizing process that recycles green liquor to white liquor for making paper pulp.
32. "Solid waste", for the purposes of this regulation, means any garbage, refuse, or other discarded material from industrial, commercial, mining, agricultural, silvicultural, and horticultural operations and from community activities. This term does not include solid or dissolved material in domestic sewage, recovered materials, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to NPDES permits under the Federal Water Pollution Control Act, as amended, or the Pollution Control Act of South Carolina, as amended, or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954 42 USCA 2011 et seq. Also excluded from this definition are application of fertilizer and animal manure during normal agricultural, silvicultural, and horticultural operations, or refuse as defined and regulated pursuant to the South Carolina Mining Act, S.C. Code Section 48-20-10, et seq., including processed mineral waste, which will not have a significant adverse impact on the environment.
33. "Soluble salts" means the amount of chemical constituents in non-hazardous solid waste which are readily soluble in water as estimated by electrical conductivity.
34. "Surface water body", for the purposes of this regulation, means any body of water on the land's surface which holds visible water for greater than six (6) consecutive months, excluding drainage ditches, sedimentation ponds and other man-made operational features on the site.
35. "Total alkalinity" means a measure of the ability of a substance to neutralize acidity and is expressed as the calcium carbonate equivalent.

36. "Wood ash" means the residue derived from the combustion of wood, wood waste, bark or other plant tissue or products, including both bottom ash, fly ash and their mixtures.

37. "Woodyard wastes" means non-contaminated residues from woodyard operations, which may include bark, portions of tree limbs and logs, sand or soil, sawdust and wood chips.

C. General Provisions. The land application of all solid wastes, i.e., Classes I, II, III & IV shall be in accordance with the requirements established in this section unless otherwise stated.

1. Open dumping of solid waste is prohibited. Land application shall only be approved on land being managed for agricultural, silvicultural, or horticultural production and land reclamation projects.

2. Solid waste shall not be land applied except in accordance with the requirements established in this regulation.

3. The Department may impose more stringent requirements based on scientific and/or technical data than those established in this regulation or may issue variances on a case-by-case or site-specific basis when necessary to protect human health and/or the environment from unintended consequences associated with site characteristics or unusual characteristics of a specific solid waste.

4. The land application of solid waste shall adhere to all Federal, State and local zoning, land use and other applicable ordinances, regulations and laws.

5. If at any time the Department obtains quantitative data indicating that land application of solid waste poses an actual or potential threat to public health or the environment, or to threatened or endangered species, upon notification by the Department, the generator, applicator, and landowner shall cease activities, evaluate the extent of the problem, and implement a corrective action program approved by the Department.

6. All vehicles used to transport solid waste for the purpose of land application shall be constructed and maintained so as to minimize dropping, sifting, blowing or other escapement of solid waste from the vehicle and shall be maintained and operated in accordance with all local, State, and Federal regulations.

7. Solid waste shall not be applied to flooded, ponded, frozen or snow-covered grounds.

8. Unless part of a normal or ongoing agricultural, silvicultural or horticultural operation, exempted by 33 USC 1345 of the Clean Water Act, land application of solid waste shall be in compliance with the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency requirements concerning wetlands.

9. For all wastes with the exception of Class III (i.e., cotton gin trash, cotton mote waste, bark, flume grit, etc.) a twelve (12) inch separation from the water table and the solid waste application zone shall be maintained during the actual application period. For Classes II and IV, the presence of the water table shall be determined based on interpretation of the data from a minimum of three (3) hand auger borings at least three (3) inches in diameter to a depth of two (2) feet. These holes shall be bored at the lowest point in the proposed application area and at two (2) other points in the proposed application area. The borings

shall be covered and allowed to stand for twenty-four (24) hours. The water level in the borings shall be reported to the Department with the permit request.

10. The waste generator of Classes I and III shall ensure that the boundary of application shall not extend closer than the buffers outlined below. Variances may be requested and granted on a case-by-case basis upon submittal of written documentation that the variance will not cause an environmental or public health concern. (The buffer requirements for Classes II and IV are outlined in Sections E. and G. of this regulation.)

a. Fifty (50) feet of any property line. When the property borders a paved public two-lane road, the application shall not extend closer than fifty (50) feet from the center of the road;

b. One hundred (100) feet of any residence;

c. Five hundred (500) feet of any school, day-care center, hospital or recreational park area;

d. One hundred (100) feet of any surface water body; and,

e. One hundred (100) feet of drinking water wells.

11. The land application of solid waste shall be conducted in a manner to:

a. Inhibit the harborage of flies, rodents, and other vectors;

b. Prevent conditions for transmission of diseases to man and/or animals;

c. Minimize runoff, prevent water pollution and prevent the escape of the solid waste to waters of the State; and,

d. Minimize objectionable odors, dust, unsightliness, and aesthetically objectionable conditions, and prevent the accumulation of materials in an untidy and unsafe manner so as to become a fire, human health, environmental, and/or safety hazard.

12. Analyses of Class I, II and IV solid wastes required by this regulation for any parameter shall be analyzed by a laboratory certified for those parameters by the State Environmental Laboratory Certification Program unless otherwise noted in the regulation.

13. Solid wastes shall not be land applied when cumulative lifetime loads for heavy metals exceed the limits outlined below.

CUMULATIVE LIFETIME LOADING RATES

<u>Metal</u>	<u>lb/ac</u>	<u>kg/ha</u>
arsenic	37	41
cadmium	35	39
copper	1370	1500

lead	274	300
mercury	15	17
nickel	383	420
selenium	91	100
zinc	2550	2800

The Department may delete the requirement for any of the analyses for metals listed above if it can be demonstrated that a metal(s) is not expected to be contained in or derived from the waste to be land applied in concentrations and amounts that would cause environmental pollution or deterioration of soil quality. Likewise, the Department may require analysis of additional parameter(s) if it is demonstrated that a metal is expected to be contained in or derived from the waste to be land applied at a level that could present environmental and health problems at the proposed rate of application.

14. If other wastes are subsequently applied to the proposed location, documentation to include soil analyses performed by a Certified Laboratory shall be submitted to the Department with the annual report to show that the cumulative metal loads have not been exceeded.

15. The generator shall notify the Department prior to any changes in fuel source, process operations, or other changes that may alter the chemical characteristics of the waste.

16. The temporary storage of Class I and Class II solid wastes at the application site shall be limited to the amount designated for use at that location, and shall comply with the criteria outlined below if storage exceeds seven (7) days. (Temporary storage requirements for Class III and Class IV are outlined in Sections F. and G. respectively in this regulation.)

- a. Temporary storage at the application site shall not exceed ninety (90) days;
- b. Earthen dikes, berms or other suitable barriers shall be constructed around the perimeter of the storage area to minimize off-site movement of the waste materials;
- c. Monitoring wells around the perimeter of the storage area may be required on a case-by-case basis upon written notification from the Department based on consideration of the type of waste, the amount of solid waste to be stored, topography of the land, and the potential impact to groundwater, etc. Any analyses required shall be performed by a Certified Laboratory;
- d. Unless otherwise approved by the Department, materials to be stored for longer than thirty (30) days shall be covered with an impermeable barrier; and,
- e. Temporary storage locations shall be reclaimed within one (1) year of construction by re-establishing the original groundline, incorporating into the soil any small amounts of residual materials by disking or plowing and revegetating the area for soil stabilization.

17. Solid waste being land applied shall be spread uniformly over the entire acreage approved for receipt of the waste at the rate approved for application. This is not intended to preclude banding or other commonly accepted methods routinely used for application of materials to soil for crop and silvicultural production purposes.

18. For a solid waste not specifically addressed in this regulation, a request and application for a permit to land apply the said waste shall be submitted to the Department. For the purposes of this regulation, the Department will classify solid waste for land application into the following four (4) categories:

a. Class I. Those solid wastes which require permitting by the Department prior to land application of that waste, e.g., wood ash, coal ash, green liquor dregs, and slaker grit.

b. Class II. Those solid wastes which, due to lack of substantiating data needed to calculate agronomic rate or to document that the material is non-toxic to plants, require issuance of a Department Research, Development, and Demonstration Permit pursuant to R.61-107.10.

c. Class III. Those solid wastes which require the generator to register the solid waste to be applied with the Department prior to any application, and subsequent notification to the Department prior to each application in lieu of permitting, e.g., cotton mote waste, cotton gin trash, bark, woodyard waste, flume grit.

d. Class IV. Those solid wastes used in land reclamation and other projects when the application rate exceeds ten (10) dry tons per acre per year and scientific/technical data is submitted to document the proposed application rate will have no detrimental impact on the environment and public health, and is non-toxic to plants and wildlife normally associated with the crop ecosystem. Class IV solid wastes require permitting by the Department prior to application.

19. The Department may reclassify waste from one class to another based on sound scientific data.

D. Class I Solid Waste for Land Application (e.g., coal ash, wood ash, green liquor dregs, slaker grit.)

1. The generator of the Class I solid waste shall obtain a permit from the Department for the land application of the specific waste(s) at proposed location(s) prior to commencing land application operations.

2. A permit for land application of a Class I solid waste shall be reviewed by the Department on an annual basis.

3. A request for a Department permit for the land application of a Class I solid waste shall include, but not be limited to, the following:

a. A completed permit application on a form provided by the Department;

b. A county map(s) showing the location of the proposed application site(s);

c. A chemical analysis (representative analysis) of the waste material to be land applied. This chemical analysis shall be conducted on samples collected within the last three (3) months and include the parameters listed below. This sample shall be a representative sample of the waste material to be applied. New representative samples shall be analyzed if there are changes in fuel source, process operations, or

other changes which would alter the chemical characteristics of the waste. The frequency of sampling and the number of sample analyses needed to establish a representative analysis will vary according to the uniformity and consistency of the waste. At a minimum, the determination of representative analysis shall be reassessed each year but shall be sufficiently frequent and extensive so as to comply with Section B.29 of this regulation, the definition for "representative sample and representative analysis".

(1) The following parameters shall be analyzed by a South Carolina Certified Laboratory certified for these parameters:

(a) Total alkalinity;

(b) Concentrations of the following metals:

arsenic	cadmium
copper	lead
mercury	nickel
selenium	zinc

(c) Total Kjeldahl nitrogen, nitrate-nitrogen, and ammonium-nitrogen;

(2) The following parameters shall be analyzed by an Agricultural Laboratory:

(a) Electrical conductivity of a saturated extract; and,

(b) Soluble boron, sodium, and sulfate;

d. A soil test from each proposed application site performed by an Agricultural Laboratory for agricultural purposes shall be submitted to the Department unless specifically exempted in the Department permit. The soil sample(s) shall be representative of the field(s) to which the waste will be applied. The soil sample shall be collected subsequent to the most recent application of fertilizer, lime, and other material which would alter the soil test results but no more than six (6) months prior to submittal of the data. This analysis shall include a recommendation for lime and plant nutrients needed or appropriate for good crop or forest production purposes based on Best Management Practices (BMPs) and the parameters listed below. (BMPs are available from the State Extension Service, various governmental agencies involved in management of agricultural, silvicultural or horticultural lands, Certified Crop Advisers, registered foresters, soil scientists, and agronomists.)

(1) pH;

(2) Lime requirement; and,

(3) Available phosphorus and potassium.

e. An application plan detailing:

(1) Rates to be applied at each location, expressed on an areal application basis;

- (2) Cropping plan and proposed schedule for each application;
- (3) Application method and safeguards to limit soil loss; and,
- (4) Equipment to be used for uniform application.

4. To add additional application sites to the permit, the generator shall request a permit modification prior to application. The information listed below shall be submitted to the Department for approval. A variance of Item 4.b. and 4.c. below may be requested once a compliance history is established. Variances will be based on past compliance history, the consistency of the waste stream, the consistency of the soils, the consistency of crops, and submittal of scientific data to document that the application program will have no adverse impact on the environment and public health, and is non-toxic to plants and wildlife normally associated within the crop ecosystem.

- a. A county map(s) showing the location of each proposed application site;
- b. A soil test from each application site as outlined in Section D.3.d. above; and,
- c. An application plan as outlined in Section D.3.e. above.

5. Class I Application Rates:

a. Unless otherwise approved by the Department, application rates for Class I solid wastes shall not exceed ten (10) dry tons per acre per year on cultivated crop or forest lands or five (5) dry tons per acre per year on pasture land in which the waste is not incorporated into the soil surface layer unless otherwise limited to a lower rate by soil test recommendation, agronomic rate, or metal loading. For example, nitrogen, boron, sodium, or soluble salts content and alkalinity may limit application rate to less than ten dry tons per acre per year; and,

b. Requests for application rates exceeding the limits outlined above will be reviewed on a case- and site-specific basis. Such projects may be considered if accompanied by appropriate soil and crop monitoring data for purposes of establishing relationships between soil physical characteristics and solid waste application rates, or relationships between long term, repeated applications and mobility or plant availability of elemental constituents of the solid waste or chemical processes in soil. Monitoring data obtained from such projects shall be assembled into a technical report and submitted to the Department. Requests for changes in application plans or locations shall be submitted in writing to the Department for review, consideration, and approval.

6. The following potential rate limiting factors shall establish the amount of waste that may be land applied. The application of waste shall not cause the soil pH to significantly fall below or rise above the range indicated. In addition, the application of waste shall not add more than the indicated amount of soluble sulfate, sodium, or boron. Nutrient limits are those recommended by the Clemson Cooperative Extension Service.

<u>FACTOR</u>	<u>CONSTITUENT</u>	<u>LIMIT</u>
pH (soil)		The application of waste shall not cause the soil pH to significantly fall below or rise above the range of 5.0 to 7.0.
Soluble Salts: extraction	boron	4 lbs/acre; readily soluble boron as determined by hot water
	sulfate	300 lbs/acre
	sodium	Less than 15% of base saturation of soil
Plant Nutrients:		<p>Agronomic crops - consult Circular 476, Cooperative Extension Service, Clemson University, Clemson, 1982. The recommendations for nitrogen, phosphorus, and potassium are provided with agricultural soil tests. In addition, recommendations may be obtained from the local County Extension Office, a Certified Crop Adviser, an agronomist or soil scientist, or the Faculty of Soils at Clemson University.</p> <p>Silvicultural sites - recommendation for nitrogen and other nutrients may be obtained from the Forest Resources Department at Clemson University, Area County Extension Agents for Forestry, or professional foresters with training in nutrient management.</p>
Metals		As specified in Section C.13 of this regulation.
<p>7. Unless otherwise approved by the Department, Class I solid waste may be applied to the same location more frequently than once each year as long as the total amount applied in any 12-month period does not exceed ten (10) dry tons per acre, if one of the factors cited above relating to agronomic rate or metal loading does not otherwise limit the loading rate.</p> <p>8. No less than twenty-four (24) hours prior to land application of a Class I solid waste at an approved location, the generator shall notify the Department's EQC District Office and provide the following information:</p> <ol style="list-style-type: none"> The location to receive the application; An estimate of the volume of waste to be land applied during the project; The anticipated date to begin application activities; and, The anticipated duration of the application activities. <p>9. Monitoring Requirements for Class I Solid Waste.</p>		

a. **Solid Waste.** Annually, or more frequently if necessary to document the waste concentration within a tolerance of 25%, a new chemical analysis of a representative sample of the solid waste shall be submitted to the Department with the annual report. If there are substantive changes in fuel source, process operations, or other changes which would alter the chemical characteristics of the waste, additional sampling shall be required at that time. This analysis shall include the parameters listed in Section D.3.c.(1) of this regulation performed by a Certified Laboratory and those parameters listed in Section D.3.c.(2) performed by an Agricultural Laboratory.

b. **Soil Analyses.** Prior to a subsequent application of the solid waste, soil samples shall be analyzed by a Certified Laboratory for whichever constituent(s) or parameter(s) limited the previous application. The soil sample from pastures shall be taken from the surface 2-3 inches. Samples from cultivated fields and forested landscapes shall be taken from the surface 6 inches. If nitrogen was the limiting constituent, the soil sample shall be taken to a depth of 4 feet and divided into five subsamples (0-6, 6-12, 12-24, 24-36, and 36-48 inches) for analysis of ammonium-nitrogen and nitrate-nitrogen.

10. **Reporting Requirements.** Generators of Class I solid waste that is land applied shall maintain and report the information as outlined below.

a. The generator shall submit to the Department the following information in the form of an annual report for the period of July 1 through June 30. This report shall be submitted to the Department on or before August 15th and shall include:

(1) Any chemical analyses of the wastes performed during the reporting period subsequent to the original data submitted with the permit application request;

(2) Soil analyses for all locations that received an application of solid waste subsequent to the application of the amount of waste approved for the initial 12-month period, pursuant to Section D.9.b. above; and,

(3) The total amount of solid waste in tons land applied during the reporting period; and,

b. The generator shall maintain on site the following application site information and shall submit to the Department upon request:

(1) Location of the site(s) that received solid waste applications during the reporting period;

(2) Amount of solid waste applied to each site;

(3) Number of acres treated at each site;

(4) Date of application(s) at each site; and,

(5) The crop being grown on the application site.

E. Class II Solid Waste for Land Application.

1. The Department may issue a Research, Development, and Demonstration Permit (RD&D Permit) in accordance with Regulation 61-107.10 for the land application of Class II solid waste. RD&D Permits will be issued for the purpose of gathering soil and crop information when documentation and data are unavailable to ensure that:

a. Land application of a particular solid waste will have no detrimental impact to the environment or public health; and,

b. Application rates that exceed 10 tons per acre per year on cultivated or forest land and 5 tons per acre per year on pasture land will have no detrimental impact to the environment or public health.

2. Land application of Class II solid waste will be considered by the Department on a case- and site-specific basis.

3. Unless otherwise defined in the Department permit, the boundary of a Class II solid waste application shall not extend closer than:

a. One hundred (100) feet of any property line. Variances may be requested and granted on a case-by-case basis upon submittal of written consent from the adjacent landowner(s).

b. One hundred (100) feet of any residence;

c. Five hundred (500) feet of any school, day-care center, hospital or recreational park area;

d. One hundred (100) feet of any surface water body; and,

e. One hundred (100) feet of drinking water wells.

4. Class II solid waste applications shall address the following:

a. Relationships between soil physical characteristics and the solid waste application rates; or,

b. Relationships between long term, repeated applications and mobility or plant availability of elemental constituents of the solid waste or chemical processes in soil.

5. Monitoring data obtained from Class II applications shall be submitted to the Department in the form of a technical report concerning the effectiveness and the environmental effect of the application. This report will be reviewed by the Department and an approved independent scientist(s) prior to determining the acceptability of the solid waste for land application and/or the proposed application rate. If the research and demonstration project is successful, the Department may classify the waste as either a Class I, Class III or a Class IV waste for the purposes of this regulation.

6. No less than seventy-two (72) hours prior to land application of a Class II solid waste at an approved location, the generator shall call the Department's EQC District Office and provide the following information:

- a. The location to receive the application;
- b. An estimate of the volume of waste to be land applied during the project;
- c. The anticipated duration of the application activities; and,
- d. An implementation schedule.

F. Class III Solid Waste for Land Application (e.g., cotton mote waste, cotton gin trash, bark, woodyard waste, flume grit.)

1. Prior to land application of a Class III solid waste, the generator shall submit a request to the Department for registration of a specific solid waste. Registration in lieu of permitting is required for land application of Class III solid wastes. This submittal shall include a qualitative description of the waste and brief explanation of why the waste is considered to be innocuous with regard to effects on soil and water resources.

2. Registration for Class III solid waste shall be renewed with the Department every five (5) years.

3. A brief report summarizing the experiences of those who operate the land application sites as to their degree of satisfaction with the practice shall be submitted to the Department every five (5) years from the date of registration with a request for renewal of registration.

4. Land application of Class III solid wastes shall not exceed ten (10) dry tons per acre per year without written authorization from the Department.

5. The land application of all Class III solid wastes shall be in accordance with the requirements in Section C. of this regulation.

6. No less than twenty-four (24) hours prior to land application of any permitted or registered solid waste at an approved location, the generator shall call the Department's Environmental Quality Control District Office and provide the following information:

- a. The location to receive the application;
- b. An estimate of the volume of waste to be land applied during the project;
- c. The anticipated date to begin application activities; and,
- d. The anticipated duration of the application activities.

7. Temporary Storage.

a. The temporary storage of a registered Class III solid waste at the application site prior to application shall not exceed six (6) months. Appropriate measures shall be taken to prevent fires and to

control mosquitoes and rodents in order to protect the public health and welfare, and to prevent public health nuisances associated with the waste being temporarily stored; and,

- b. Temporary stockpile volumes shall be limited to the amount designated for use at that location.

G. Class IV Solid Waste for Land Application/Reclamation. Class IV solid wastes are those solid wastes used for land reclamation and other projects when the application rate exceeds ten (10) dry tons per acre per year and scientific/technical data is submitted to document that the proposed application rate will have no detrimental impact on the environment and public health, and is non-toxic to plants and wildlife normally associated with the crop ecosystem. Solid wastes used in land reclamation and other projects when the application rate is less than ten (10) dry tons per acre per year shall be classified as either Class I or III, as appropriate.

- 1. The generator of the Class IV solid waste shall obtain a permit from the Department for the land application of the specific waste(s) at proposed location(s) prior to commencing land application/reclamation operations.

- 2. A permit for land application of a Class IV solid waste shall be reviewed by the Department on an annual basis.

- 3. A request for a Department permit for the land application of a Class IV solid waste shall include, but not be limited to, the following:

- a. A completed permit application on a form provided by the Department;

- b. A 7.5 minute quadrant map (U.S. Geological Survey topographic map, including the legend and name of the quadrant) with the proposed application site(s) identified;

- c. A site plan on a scale of four (4) inches per mile for each application site. This map shall at a minimum identify the following:

- (1) Location of surface water bodies, dry runs, wetlands, the location of the 100-year flood plain boundaries, and other applicable details regarding the general topography of the application site and immediately adjacent properties;

- (2) Land use immediately adjacent to the boundaries of the proposed site to demonstrate compliance with buffer requirements including the location of all homes, schools, hospitals, recreational park areas, drinking water wells, and roads;

- (3) Restricted or excluded areas; and,

- (4) Proposed temporary storage area(s);

- d. A Chemical analysis (representative analysis) of the waste material to be land applied. This chemical analysis shall be conducted on samples collected within the last three (3) months and include the parameters listed below. This sample shall be a representative sample of the waste material to be applied.

New representative samples shall be analyzed if there are changes in fuel source, process operations, or other changes that would alter the chemical characteristics of the waste. The frequency of sampling and the number of sample analyses needed to establish a representative analysis will vary according to the uniformity and consistency of the waste. At a minimum, the determination of representative analysis shall be reassessed each year but shall be sufficiently frequent and extensive so as to comply with Section B.29 of this regulation, the definition for "representative sample and representative analysis".

(1) The following parameters shall be analyzed by a South Carolina Certified Laboratory certified for these parameters:

- (a) Total alkalinity;
- (b) Concentrations of the following metals:

arsenic	cadmium
copper	lead
mercury	nickel
selenium	zinc

- (c) Total Kjeldahl nitrogen, nitrate-nitrogen, and ammonium-nitrogen;

(2) The following parameters shall be analyzed by an Agricultural Laboratory:

- (a) Electrical conductivity of a saturated extract; and,
- (b) Soluble boron, sodium, and sulfate;

e. A soil test from each proposed application site performed by an Agricultural Laboratory for agricultural purposes shall be submitted to the Department unless specifically exempted in the Department permit. The soil sample(s) shall be representative of the field(s) to which the waste will be applied. The soil sample shall be collected subsequent to the most recent application of fertilizer, lime, and other material which would alter the soil test results but no more than six (6) months prior to submittal of the data. This analysis shall include a recommendation for lime and plant nutrients needed or appropriate for good crop or forest production purposes based on Best Management Practices (BMPs) and the parameters listed below. (BMPs are available from the State Extension Service, various governmental agencies involved in management of agricultural, silvicultural or horticultural lands, Certified Crop Advisers, registered foresters, soil scientists, and agronomists.)

- (1) pH;
- (2) Lime requirement; and,
- (3) Available phosphorus and potassium.

f. An application plan detailing:

- (1) Rates to be applied at each location, expressed on an areal application basis;
 - (2) Cropping plan and proposed schedule for each application;
 - (3) Application method and safeguards to limit soil loss; and,
 - (4) Equipment to be used for uniform application.
4. To add additional application sites to the permit, the generator shall request a permit modification prior to application. The following information shall be submitted to the Department for approval:
- a. A 7.5 quadrant map as outlined in Section G.3.b. above.
 - b. A site plan as outlined in Section G.3.c. above.
 - c. A soil test from each application site as outlined in Section G.3.e. above; and,
 - d. An application plan as outlined in Section G.3.f. above.
5. Unless otherwise defined in the Department permit, the boundary of a Class IV solid waste application shall not extend closer than:
- a. One hundred (100) feet of any property line. Variances may be requested and granted on a case-by-case basis upon submittal of written consent from the adjacent landowner(s).
 - b. One hundred (100) feet of any residence;
 - c. Five hundred (500) feet of any school, day-care center, hospital or recreational park area;
 - d. One hundred (100) feet of any surface water body; and,
 - e. One hundred (100) feet of drinking water wells.
6. Class IV application rates will be reviewed on a case- and site-specific basis. Such projects will be considered if accompanied by appropriate soil and crop monitoring for purposes of establishing relationships between soil physical characteristics and solid waste application rates, or relationships between long term, repeated applications and mobility or plant availability of elemental constituents of the solid waste or chemical processes in soil. Monitoring data obtained from Class IV projects shall be assembled into a technical report and shall be submitted to the Department at the end of the project.
7. The following potential rate limiting factors shall establish the amount of waste that may be land applied. The application of waste shall not cause the soil pH to significantly fall below or rise above the range indicated. In addition, the application of waste shall not add more than the indicated amount of soluble sulfate, sodium, or boron. Nutrient limits are those recommended by the Clemson Cooperative Extension Service.

<u>FACTOR</u>	<u>CONSTITUENT</u>	<u>LIMIT</u>
pH (soil)		The application of waste shall not cause the soil pH to significantly fall below or rise above the range of 5.0 to 7.0.
Soluble Salts: extraction	boron	4 lbs/acre; readily soluble boron as determined by hot water
	sulfate	300 lbs/acre
	sodium	Less than 15% of base saturation of soil
Plant Nutrients:		<p>Agronomic crops - consult Circular 476, Cooperative Extension Service, Clemson University, Clemson, 1982. The recommendations for nitrogen, phosphorus, and potassium are provided with agricultural soil tests. In addition, recommendations may be obtained from the local County Extension Office, a Certified Crop Adviser, an agronomist or soil scientist, or the Faculty of Soils at Clemson University.</p> <p>Silvicultural sites - recommendation for nitrogen and other nutrients may be obtained from the Forest Resources Department at Clemson University, Area County Extension Agents for Forestry, and professional foresters with training in nutrient management.</p>
Metals		As specified in Section C.13 of this regulation.

8. Class IV solid waste may be applied to the same location more frequently than once each year as long as the total amount applied to any location:

- a. Does not exceed the cumulative lifetime metal loading rate;
- b. Does not exceed the annual application rate permitted by the Department; and,
- c. Is non-toxic to plants and wildlife normally associated with the crop ecosystem.

9. Requests for changes in application plans or locations shall be submitted in writing to the Department for review, consideration, and approval.

10. The generator shall ensure that the Class IV solid waste is uniformly spread over the entire acreage and incorporated into the soil, e.g., that heavy equipment is available to properly spread and incorporate the waste.

11. No less than seventy-two (72) hours prior to land application of a Class IV solid waste at an

approved location, the generator shall notify the Department's EQC District Office and provide the following information:

- a. The location to receive the application;
- b. An estimate of the volume of waste to be land applied during the project;
- c. The anticipated date to begin application activities; and,
- d. The anticipated duration of the application activities.

12. The temporary storage of Class IV solid wastes at the application site shall be limited to the amount designated for use at that location, and shall comply with the criteria outlined below if storage exceeds forty-eight (48) hours.

- a. Temporary storage at the application site shall not exceed two (2) weeks;
- b. Earthen dikes, berms or other suitable barriers shall be constructed around the perimeter of the storage area to minimize off-site movement of the waste materials;
- c. Monitoring wells around the perimeter of the storage area may be required upon written notification from the Department on a case-by-case basis based on consideration of the type of waste, the amount of solid waste to be stored, topography of the land, and the potential impact to groundwater, etc. Any analyses required shall be performed by a Certified Laboratory; and,
- d. Temporary storage locations shall be reclaimed within thirty (30) days of construction by re-establishing the original groundline, incorporating into the soil any small amounts of residual materials by disking or plowing and revegetating the area for soil stabilization.

13. Monitoring Requirements for Class IV Solid Waste.

a. Solid Waste. Annually, or more frequently if necessary to document the waste concentration within a tolerance of 25%, a new chemical analysis of a representative sample of the solid waste shall be submitted to the Department with the annual report. If there are substantive changes in fuel source, process operations, or other changes which would alter the chemical characteristics of the waste, additional sampling shall be required at that time. This analysis shall include the parameters listed in Section G.3.d.(1) of this regulation performed by a Certified Laboratory and those parameters listed in Section G.3.d.(2) performed by an Agricultural Laboratory.

b. Soil Analyses. Prior to a subsequent application of the solid waste, soil samples shall be analyzed by a Certified Laboratory for whichever constituent(s) or parameter(s) limited the previous application. The soil sample from pastures shall be taken from the surface 2-3 inches. Samples from cultivated fields and forested landscapes shall be taken from the surface 6 inches. If nitrogen was the limiting constituent, the soil sample shall be taken to a depth of 4 feet and divided into five subsamples (0-6, 6-12, 12-24, 24-36, and 36-48 inches) for analysis of ammonium-nitrogen and nitrate-nitrogen.

14. **Reporting Requirements.** Generators of Class IV solid waste that is land applied shall submit to the Department and to the landowner, an annual report for the period of July 1 through June 30. This report shall be submitted to the Department on or before August 15th and shall include the information outlined below. This information shall be maintained by the generator for a period not less than ten (10) years.

a. Any chemical analyses of the wastes performed during the reporting period subsequent to the original data submitted with the permit application request;

b. Any soil analyses performed during the reporting period subsequent to the original data submitted with the permit application request;

c. **Application Site Information.** The following information shall be included in the annual report:

- (1) Location of the site(s) that received solid waste applications during the reporting period;
- (2) Amount of solid waste applied to each site;
- (3) Number of acres treated at each site;
- (4) Date of application(s) at each site; and,
- (5) The crop(s) being grown on the application site(s).

H. Violations and Penalties. A violation of this regulation or any permit, order, or standard subjects the person to the issuance of a Department order or to civil enforcement action in accordance with S.C. Code Section 44-96-450. Willful violation of this regulation or any permit, order, or standard subjects the person to the issuance of a Department order or to criminal enforcement action in accordance with S.C. Code Section 44-96-450. Any person to whom an order is issued may appeal it as a contested case pursuant to R.61-72, Procedures for Contested Cases, and the S.C. Administrative Procedures Act, S.C. Code Section 1-23-310 et seq.

I. Severability. Should any section, paragraph, sentence, clause or phrase of this regulation be declared unconstitutional or invalid for any reason, the remainder of this regulation shall not be affected thereby.

R. 61-107.16. Solid Waste Management: Industrial Solid Waste Landfills.

SUBPART A

16.1. PURPOSE, SCOPE, AND APPLICABILITY

a. The purpose of this regulation is to establish minimum criteria under the South Carolina Solid Waste Policy and Management Act, S.C. Code Ann. Sections 44-96-10 *et seq.* (1976 Code as amended), and all applicable federal regulations, for all industrial solid waste landfill (ISWLF) facilities. These

minimum criteria ensure the protection of human health and the environment.

- b. This regulation applies to all new and existing ISWLF facilities.
- c. Existing ISWLFs are not subject to the location criteria outlined in Subpart B or the design criteria outlined in Subpart D, but are subject to all other provisions of this regulation.
- d. This regulation becomes effective sixty (60) days after publication as final in the State Register. With prior written approval, the Department may allow the submittal of a compliance schedule in order to comply with the requirements of this regulation.
- e. Existing ISWLFs that do not meet the siting criteria outlined in Subpart B or the design criteria outlined in Subpart D, and which have confirmed exceedances of environmental standards must, within six (6) months of the date that the exceedance of environmental standards has been confirmed, establish a compliance schedule with the Department for correction of the cause and the exceedance, or for the closure of all areas of the ISWLF which have received waste. Areas of ISWLFs described in this paragraph which have not received waste will be subject to all provisions of this regulation. The closure of the filled areas must comply with the closure criteria outlined in section 16.60 and post-closure care requirements in section 16.61.
- f. All new ISWLFs must be in compliance with all requirements of this regulation prior to receipt of waste.
- g. Permanently located Industries may use certain solid waste that is generated on-site for structural fill. Such activities are exempt from the requirements of this regulation if the site will:
 - (1) Provide structural fill of areas with a beneficial end use;
 - (2) Have controlled access through the use of fences, gates or natural barriers, or other means to prevent promiscuous dumping and unauthorized access; and,
 - (3) Receive only those items listed below that are generated as a result of manufacturing operations on property under the same ownership or control as the structural fill activity and that have not been in direct contact with hazardous constituents (e.g., pesticides, etc.), petroleum products, or painted with lead-based paint:
 - (a) hardened concrete;
 - (b) brick;
 - (c) block;
 - (d) untreated lumber; and,
 - (e) other items specifically approved in writing by the Department.

h. No facility for the disposal of industrial solid waste shall be operated in the State of South Carolina without first obtaining a written permit from the South Carolina Department of Health and Environmental Control.

16.2. DEFINITIONS

a. "Active life" means the period of operation beginning with the initial receipt of industrial waste and ending at completion of closure activities in accordance with section 16.60 of this part.

b. "Active portion" means that part of a facility that has received or is receiving wastes and that has not been closed in accordance with section 16.60 of this part.

c. "Aquifer" means a geological formation, group of formations, or portion of a formation capable of yielding significant quantities of groundwater to wells or springs.

d. "Class GA groundwater" is defined in South Carolina DHEC R.61-68, Water Classifications and Standards.

e. "Commercial ISWLF" means an ISWLF which accepts solid waste from more than one generator unless the generator(s) is a subsidiary or a related corporation.

f. "Confirmed exceedance of environmental standard" means an exceedance of an environmental standard which has been confirmed by testing and comparison to environmental standards.

g. "Department" means the South Carolina Department of Health and Environmental Control, or "DHEC."

h. "Environmental Standard" means any statutorily required standard by which environmental compliance is measured by the Department.

i. "Existing ISWLF" means any industrial solid waste landfill that is permitted to receive industrial solid waste as of the effective date of this regulation. Waste placement in existing ISWLFs must be consistent with past operating practices or modified practices to ensure good management.

j. "Facility" means all contiguous land and structures, other appurtenances, and improvements on the land used for the disposal of industrial solid waste.

k. "Generator" means, for the purpose of this regulation only, any person, by site, whose act or process produces solid waste, or whose act first causes a solid waste to become subject to regulation.

l. "Groundwater" means water below the land surface in a zone of saturation.

m. "High water table" means the highest water elevations measured at the uppermost aquifer in on-site monitoring wells for a period consisting of four (4) consecutive quarters.

n. "Industrial solid waste landfill" means an area of land or an excavation in which industrial solid

wastes are placed for permanent disposal and which is permitted pursuant to this regulation or to South Carolina DHEC R.61-66, Industrial Waste Disposal Sites and Facilities and/or South Carolina DHEC R.61-70, Sanitary Landfill Design, Construction, and Operation. Such a landfill may be publicly or privately owned. The landfill may be a new ISWLF landfill, or an existing ISWLF landfill.

o. "Industrial solid waste" means solid waste generated by manufacturing or industrial processes that is not a hazardous waste regulated under subtitle C of RCRA. Such waste may include, but is not limited to, waste resulting from the following manufacturing processes: Electric power generation; fertilizer/agricultural chemicals; food and related products/by-products; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment. This term does not include mining waste or oil and gas waste.

p. "Landfill" means a disposal facility or part of a facility where solid waste is placed in or on land, and which is not a land treatment facility, a surface impoundment, or an injection well.

q. "Leachate" means a liquid that has passed through or emerged from solid waste and contains soluble, suspended, or miscible materials removed from such waste.

r. "New ISWLF" means any industrial solid waste landfill that has not been issued a permit to receive industrial solid waste prior to the effective date of this regulation.

s. "Open burning" means the combustion of solid waste without:

- (1) Control of combustion air to maintain adequate temperature for efficient combustion,
- (2) Containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and
- (3) Control of the emission of the combustion products.

t. "Operator" means any person, including the owner, who is principally engaged in, or is in charge of, the actual operation, supervision, and maintenance of an industrial solid waste management facility and includes the person in charge of a shift or period during any part of the day.

u. "Owner" means the person(s) who owns a facility or part of a facility.

v. "Perennial stream" means a stream or reach of a stream that flows continuously throughout the year and whose upper surface generally stands lower than the water table in the region adjoining the stream.

w. "Recharge area" for a particular aquifer is defined as areas where water enters the aquifer through downward migration. Principal examples include: outcrop areas of a particular aquifer where the potentiometric head within the unit decreases with depth; and, in the subsurface, where the potentiometric head relationship and leakage factors across any confining unit allow for downward flow into other aquifer systems.

x. "Run-off" means any rainwater, leachate, or other liquid that drains over land from any part of a facility.

y. "Run-on" means any rainwater, leachate, or other liquid that drains over land onto any part of a facility.

z. "Saturated zone" means that part of the earth's crust in which all voids are filled with water.

aa. "Sludge" means any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant.

bb. "Solid waste" means any garbage, or refuse, sludge from a waste treatment facility, water supply plant, or air pollution control facility and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities. This term does not include solid or dissolved materials in domestic sewage, recovered materials, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to NPDES permits under the Federal Water Pollution Control Act, as amended, or the Pollution Control Act of South Carolina, as amended, or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended. Also excluded from this definition are application of fertilizer and animal manure during normal agricultural operations or refuse as defined and regulated pursuant to the South Carolina Mining Act, including processed mineral waste, which will not have a significant adverse impact on the environment.

cc. "State" means the State of South Carolina.

dd. "Structural integrity" means the ability of a landfill to withstand physical forces exerted upon designed components, appurtenances, and containment structures (e.g., liners, dikes) of the landfill.

ee. "Uppermost aquifer" means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary.

ff. "Waste management boundary" means a vertical surface located at the hydraulically downgradient limit of the waste disposal area. This vertical surface extends down into the uppermost aquifer.

16.3. [Reserved]

16.4. INDUSTRIAL WASTE TESTING AND WASTE STREAM DETERMINATION

a. In order to determine the appropriate industrial solid waste classification, the owner or operator shall supply to the Department a comprehensive determination of the chemical and physical nature of the waste stream being disposed in the ISWLF. Industrial solid waste shall be sampled in accordance with sections 16.4.b., c. and e. and section 16.20. and the nature of the waste (i.e., sludge, petroleum contaminated soils, slag, debris, etc.). An extract shall be obtained and tested in accordance with section

16.4.d.

b. Mixing of individual wastes to be disposed prior to testing is acceptable only if:

(1) The individual wastes are mixed prior to discharge in the normal production process of the generator or the individual wastes are generated by identical industrial processes and identical raw materials; or

(2) The mixing of individual wastes results in a waste in which leaching characteristics are reduced relative to one or more of the individual wastes due to attenuation factors other than dilution, such as precipitation, adsorption, or ion exchange; and

(a) A demonstration is submitted to the Department for review and approval that details how a reduction in leaching occurs due to some factor other than dilution. The demonstration shall include, at a minimum:

(i) The concentration, determined in accordance with the requirements of this section, for each parameter which undergoes a reduction in concentration. Concentrations of parameters shall be determined for each individual waste in the mixture and for each parameter as a result of the mixture;

(ii) A listing and the ratio, by weight and volume, of the individual wastes which comprise the mixture;

(iii) Calculations using the concentration and weight data required in section 16.4.b.(2)(i) and b.(2)(ii), which demonstrate quantitatively that the reduction in leaching characteristics is not solely due to dilution; and,

(iv) An identification and explanation of the chemical reactions, including chemical equations, which cause the reduction.

(b) The individual wastes are mixed in the same ratios and in the same manner in which they will be mixed prior to disposal during the normal operation of the industrial waste landfill.

c. All samples of industrial waste shall be composite samples as described in section 9.1.1.4.1. of EPA Publication SW-846 [Third Edition (November 1986), as amended by Updates I, (July, 1992), II (September, 1994), IIA (August, 1993), and IIB (January, 1995)], and the sampler shall employ all reasonable measures, such as sampling different sources of industrial solid waste at different times, or conducting random sampling of a representative pile of the industrial waste generated from different sources at different times, to ensure that representative composite samples are obtained.

d. The toxicity characteristic leaching procedure (TCLP) (USEPA method 1311), or equivalent methods approved by the Department under the procedures set forth in section 16.4.k., shall be used to obtain all extracts for the purpose of characterizing an industrial solid waste proposed for disposal in a industrial solid waste landfill. For the purpose of obtaining an extract which will be analyzed for any volatile organic compounds, a zero headspace extraction apparatus, as specified in the TCLP, shall be used. Detection limits for the analytical methods shall be below the Maximum Contaminant Level (MCL)

published in the South Carolina DHEC R.61-58, State Primary Drinking Water Regulations, current at the time of permit application, when practically possible.

e. For the initial characterization of industrial solid waste to be disposed in an industrial waste landfill, a minimum of two (2) representative samples of the waste shall be collected and tested in accordance with the TCLP procedure. TCLP testing of additional samples of the industrial solid waste may be required by the Department, based on a high degree of variability in the concentration of a parameter at or near the maximum allowable concentration for a particular landfill class. The Department may allow with prior approval, the testing for selected constituents based on the generators knowledge of the process.

f. After the effective date of this regulation, all industrial solid waste landfills shall characterize the appropriate industrial waste stream(s) in accordance with sections 16.4.a. to 16.4.e. of this regulation:

- (1) At least every five (5) years;
- (2) Whenever the production process or raw materials used in the production process change significantly enough to alter the chemical makeup of the industrial waste;
- (3) When new waste streams are proposed for disposal in the industrial waste landfill; or
- (4) According to an alternate schedule based on the variability or non-variability noted in previous sampling events, or other factors affecting the predictability of waste characteristics.

g. The owner or operator shall notify and obtain approval from the Department prior to making any physical or chemical changes to the waste stream being disposed in the ISWLF.

(1) Significant changes in the chemical or physical nature of the waste stream may require design changes to the construction of the landfill.

(2) Significant changes to the chemical or physical nature of the waste stream may require modification of the environmental monitoring program.

h. All testing of industrial solid waste shall be performed by a laboratory certified by South Carolina to perform the analysis outlined in this regulation. Test results performed by laboratories in other states will be reviewed on a case by case basis dependant upon documentation of use of EPA protocols.

i. The analytical results required in section 16.4.f. shall be submitted to the Department within sixty (60) days of sample collection. If the test results indicate that a landfill reclassification is necessary based on exceedance of landfill classification levels outlined in Section 16.5., the Department may require additional sampling and testing to confirm or reject such indication. If the indication is confirmed, the Department may require the permittee to submit a permit application for appropriate modifications to the industrial waste landfill. The required modifications shall ensure that the facility meets the requirements of the new landfill classification.

j. Waste materials listed in Appendix 1 of this regulation shall be exempt from the testing requirements and will be classified as Class 1 industrial solid wastes. Other industrial solid wastes which demonstrate

characteristics similar to wastes listed in Appendix 1, may be exempted from the testing requirements and classified as Class 1 industrial solid wastes. This exemption may be granted by the Department on a case by case basis.

k. Any person seeking to utilize a testing or analytical method other than the method described in section 16.4.d. may request authorization to do so. To be successful, the applicant must demonstrate to the satisfaction of the Department that the proposed method is equal to or superior to the method described in section 16.4.d. in terms of its sensitivity, accuracy, and precision (i.e., reproducibility). The request shall include, at a minimum:

- (1) A full description of the proposed method, including all procedural steps and equipment used in the method;
- (2) A description of the types of wastes or waste matrices for which the proposed method may be used;
- (3) Comparative results obtained from using the proposed method with those obtained from using the relevant or corresponding method prescribed in section 16.4.d.;
- (4) An assessment of any factors which may interfere with, or limit the use of, the proposed method;
- (5) A description of the quality control procedures necessary to ensure the sensitivity, accuracy, and precision of the proposed method; and,
- (6) Any other information on the proposed method which the Department may reasonably request to evaluate the proposed method.

16.5. INDUSTRIAL SOLID WASTE LANDFILL CLASSIFICATIONS

a. Based on the results obtained from the testing performed in section 16.4., industrial solid waste landfills will be given a classification by the Department. Industrial solid waste landfills shall be constructed and operated in accordance with requirements of the assigned classification.

b. Industrial solid waste landfills shall be classified based on the following test results:

- (1) Class 1 industrial solid waste landfills shall be allowed to dispose of wastes that test less than or equal to ten (10) times the Maximum Contaminant Level (MCL) published in the South Carolina DHEC R.61-58, State Primary Drinking Water Regulations current at the time of permit application. Waste materials listed in Appendix 1 of this regulation shall be exempt from the testing requirements and will be classified as Class 1 industrial solid wastes. Other industrial solid wastes which demonstrate properties similar to wastes listed in Appendix 1, may be exempted from the testing requirements and classified as Class 1 industrial solid wastes. This exemption may be granted by the Department on a case by case basis.
- (2) Class 2 industrial solid waste landfills shall be allowed to dispose of wastes that test greater

than ten (10) times the MCL and less than or equal to thirty (30) times the MCL as published in the South Carolina DHEC R.61-58, State Primary Drinking Water Regulations current at the time of permit application.

(3) Class 3 industrial solid waste landfills shall be all other industrial solid waste landfills accepting waste that is not determined to be a hazardous waste in accordance with the South Carolina DHEC R.61-79, Hazardous Waste Management Regulations.

c. Commercial ISWLF facilities which accept industrial solid waste from varied industrial facilities will be classified based on the waste streams accepted by the landfill. If the owner or operator of the commercial ISWLF can not provide a complete listing and appropriate analytical data on all wastes to be disposed, the facility must meet all requirements for a Class 3 industrial solid waste landfill.

d. Industrial solid waste streams that contain chemicals or chemical properties potentially harmful to human health and the environment, for which TCLP, or other approved testing procedures, as outlined in section 16.4.k., is not sufficient, shall be classified on a case by case basis by the Department. The permit applicant may be required to perform alternate testing procedures as necessary to determine the potential adverse effects to human health and the environment.

e. If an alternate testing method, as allowed under section 16.4.k., is utilized to characterize a solid waste stream, the ISWLF classifications specified in section 16.5.b. may be adjusted based upon the information provided with the request for the use of an alternate testing method.

16.6. INDUSTRIAL WASTE CHARACTERIZATION REPORT

a. All ISWLF facilities shall, within one hundred eighty (180) days of the effective date of this regulation or prior to permit issuance, whichever is later, submit a waste characterization report which contains at a minimum, the following:

(1) A listing of each industrial solid waste proposed for disposal in the facility, and its approximate percentage and volume of the total waste stream;

(2) The industrial solid waste sampling plan used to ensure that accurate and representative samples will be collected in accordance with section 16.4.;

(3) A detailed description of any mixing to be proposed as described in section 16.4.b., and any available information which will be required by that section;

(4) All laboratory results and quality assurance/quality control documentation that fully characterizes each industrial waste; and

(5) The name, location, and contact person of each generator of industrial solid waste to be disposed at the facility.

(6) For facilities disposing of Appendix 1 wastes only, the waste characterization report shall consist of items (1) and (5) above.

b. Existing ISWLFs may submit a statement to the Department, in lieu of the waste characterization report, that the Department has the required information on file, specifying when and to whom the information was submitted and agreeing to respond to specific questions the Department may have regarding the information on file.

16.7. - 16.9. [Reserved]

SUBPART B - LOCATION RESTRICTIONS

16.10. [Reserved]

16.11. FLOODPLAINS

a. Owners or operators of new ISWLFs located in one hundred (100) year floodplains must demonstrate that the ISWLF will not restrict the flow of the one hundred (100) year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of industrial solid waste so as to pose a hazard to human health and the environment. The owner or operator must place the demonstration in the operating record and notify the Department that it has been placed in the operating record.

b. For purposes of this section:

(1) "Floodplain" means the lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, that are inundated by the one hundred (100) year flood.

(2) "One hundred (100) year flood" means a flood that has a one (1) percent or greater chance of recurring in any given year or a flood of a magnitude equaled or exceeded once in one hundred (100) years on the average over a significantly long period.

(3) "Washout" means the carrying away of industrial solid waste by waters of the base flood.

16.12. WETLANDS

a. New ISWLFs shall not be located in wetlands, unless the owner or operator can make the following demonstrations to the Department:

(1) Where applicable under section 404 of the Clean Water Act, 33 USC section 1344, or other applicable State wetlands laws, the presumption that a practicable alternative to the proposed landfill is available which does not involve wetlands is clearly rebutted:

(2) The construction and operation of the ISWLF will not:

(a) Cause or contribute to violations of any applicable State water quality standard,

(b) Violate any applicable toxic effluent standard or prohibition under Section 307 of the Clean Water Act, 33 USC section 1344,

(c) Jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Endangered Species Act of 1973, 16 USCA sections 668aa through ss, and

(d) Violate any requirement under the Marine Protection, Research, and Sanctuaries Act of 1972, 16 USC sections 1431 *et seq.*, for the protection of a marine sanctuary;

(3) The ISWLF will not cause or contribute to significant degradation of wetlands. The owner/operator must demonstrate the integrity of the ISWLF and its ability to protect ecological resources by addressing the following factors:

(a) Erosion, stability, and migration potential of native wetland soils, muds and deposits used to support the ISWLF;

(b) Erosion, stability, and migration potential of dredged and fill materials used to support the ISWLF;

(c) The volume and chemical nature of the waste managed in the ISWLF;

(d) Impacts on fish, wildlife, and other aquatic resources and their habitat from release of the industrial solid waste;

(e) The potential effects of catastrophic release of waste to the wetland and the resulting impacts on the environment; and

(f) Any additional factors, as necessary, to demonstrate that ecological resources in the wetland are sufficiently protected.

(4) To the extent required under section 404 of the Clean Water Act, 33 USC section 1344, or other applicable State wetlands laws, steps have been taken to attempt to achieve no net loss of wetlands (as defined by acreage and function) by first avoiding impacts to wetlands to the maximum extent practicable as required by paragraph a.(1) of this section, then minimizing unavoidable impacts to the maximum extent practicable, and finally offsetting remaining unavoidable wetland impacts through all appropriate and practicable compensatory mitigation actions (e.g., restoration of existing degraded wetlands or creation of man-made wetlands); and

(5) Sufficient information is available to make a reasonable determination with respect to these demonstrations.

b. For purposes of this section, *wetlands* means those areas that are defined in 40 Code of Federal Regulations (CFR) 232.2(r).

c. In lieu of the demonstration required by subsection (a) of this section, the applicant may submit proof that it has obtained the permits and/or authorizations required by all other state and federal laws and regulations applicable to the use of such wetlands.

16.13. FAULT AREAS

a. New ISWLFs designed and constructed with a liner and leachate collection system shall not be located within two hundred (200) feet (60 meters) of a fault that has had displacement in Holocene time unless the owner or operator demonstrates to the Department that an alternative setback distance of less than two hundred (200) feet (60 meters) will prevent damage to the structural integrity of the ISWLF and will be protective of human health and the environment.

b. For the purposes of this section:

(1) "Fault" means a fracture or a zone of fractures in any material along which strata on one side have been displaced with respect to that on the other side.

(2) "Displacement" means the relative movement of any two (2) sides of a fault measured in any direction.

(3) "Holocene" means the most recent epoch of the Quaternary period, extending from the end of the Pleistocene Epoch to the present.

16.14. SEISMIC IMPACT ZONES

a. New ISWLFs designed and constructed with a liner and leachate collection system shall not be located in seismic impact zones, unless the owner or operator demonstrates to the Department that all containment structures, including liners, leachate collection systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site. The owner or operator must place the demonstration in the operating record and notify the Department that it has been placed in the operating record.

b. For the purposes of this section:

(1) "Seismic impact zone" means an area with a ten (10) percent or greater probability that the maximum horizontal acceleration in lithified earth material, expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10g in two hundred fifty (250) years.

(2) "Maximum horizontal acceleration in lithified earth material" means the maximum expected horizontal acceleration depicted on a seismic hazard map, with a ninety (90) percent or greater probability that the acceleration will not be exceeded in two hundred fifty (250) years, or the maximum expected horizontal acceleration based on a site-specific seismic risk assessment.

(3) "Lithified earth material" means all rock, including all naturally occurring and naturally formed aggregates or masses of minerals or small particles of older rock that formed by crystallization of magma or by induration of loose sediments. This term does not include man-made materials, such as fill, concrete, and asphalt, or unconsolidated earth materials, soil, or regolith lying at or near the earth surface.

16.15. UNSTABLE AREAS

a. Owners or operators of new ISWLFs designed and constructed with a liner and leachate collection system located in an unstable area must demonstrate that engineering measures have been incorporated into the ISWLFs design to ensure that the integrity of the structural components of the ISWLF will not be disrupted. The owner or operator must place the demonstration in the operating record and notify the Department that it has been placed in the operating record. The owner or operator must consider the following factors, at a minimum, when determining whether an area is unstable:

- (1) On-site or local soil conditions that may result in significant differential settling;
- (2) On-site or local geologic or geomorphologic features; and
- (3) On-site or local human-made features or events (both surface and subsurface).

b. For purposes of this section:

(1) "Unstable area" means a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity of some or all of the landfill structural components responsible for preventing releases from a landfill. Unstable areas can include poor foundation conditions, areas susceptible to mass movements, and Karst terrains.

(2) "Structural components" means liners, leachate collection systems, final covers, run-on/run-off systems, and any other component used in the construction and operation of the ISWLF that is necessary for protection of human health and the environment.

(3) "Poor foundation conditions" means those areas where features exist which indicate that a natural or man-induced event may result in inadequate foundation support for the structural components of an ISWLF.

(4) "Areas susceptible to mass movement" means those areas of influence (i.e., areas characterized as having an active or substantial possibility of mass movement) where the movement of earth material at, beneath, or adjacent to the ISWLF, because of natural or man-induced events, results in the downslope transport of soil and rock material by means of gravitational influence. Areas of mass movement include, but are not limited to, landslides, avalanches, debris slides and flows, soil fluction, block sliding, and rock fall.

(5) "Karst terrains" means areas where karst topography, with its characteristic surface and subterranean features, is developed as the result of dissolution of limestone, dolomite, or other soluble rock. Characteristic physiographic features present in karst terrains include, but are not limited to, sinkholes, sinking streams, caves, large springs, and blind valleys.

16.16. [Reserved]

16.17. [Reserved]

16.18. BUFFER ZONES

a. All new ISWLFs shall meet the following buffer zone requirements at the time of the initial public notice:

(1) The ISWLF shall not be located within one hundred (100) feet of any property line not under control of the owner or operator.

(2) The ISWLF shall not be located within two hundred (200) feet of any surface water body which holds visible water for greater than six (6) consecutive months, excluding ditches, sediment ponds, and other operational features on the site.

(3) Non-commercial ISWLFs shall not be located within two hundred (200) feet of any residences, schools, hospitals, churches, and publicly owned recreational park areas, unless such features are included in the site design for a planned end-use.

(4) Commercial ISWLFs shall not be located within one thousand (1000) feet of any residences, schools, hospitals, churches, and publicly owned recreational park areas, unless such features are included in the site design for a planned end-use.

(5) The ISWLF shall not be located within the following distances from any well used as a source of water for human consumption, that is in a hydrologic unit potentially affected by the landfill. Exemptions may be granted by the Department if the applicant can demonstrate to the satisfaction of the Department that the hydrologic conditions below the landfill provide protection to the aquifer in use:

(a) Less than five hundred (500) feet hydraulically downgradient of the groundwater well;

(b) Less than seven hundred fifty (750) feet hydraulically sidegradient of the groundwater well;
and,

(c) Less than one thousand (1000) feet upgradient of the groundwater well.

(6) The bottom elevation of the landfill excavation shall be a minimum of two (2) feet above the seasonal high water table as it exists prior to construction of the disposal area. The seasonal high water table elevation shall be based on interpretation of the data obtained from a representative number of monitoring wells approved by the Department. In cases where there is insufficient information to support the seasonal high water table elevation determination, additional separation may be required by the Department.

(7) The bottom elevation of the landfill excavation shall be a minimum of ten (10) feet above bedrock. This vertical separation may consist of naturally occurring or engineered material which can be maintained between the base of the constructed landfill and bedrock; provided, however, the nature of the material and sufficient separation exists to provide for installation and operation of an effective groundwater monitoring system. The nature of the material making up this interval is subject to Department approval.

b. [Reserved]

16.19. [Reserved]

SUBPART C. OPERATING CRITERIA

16.20. PROCEDURES FOR EXCLUDING THE RECEIPT OF UNAPPROVED WASTE, PCB CONTAINING WASTE, AND HAZARDOUS WASTE

a. Owners or operators of all ISWLFs must implement a program at the facility for detecting and preventing the disposal of regulated hazardous wastes as defined in the South Carolina DHEC R.61-79.261, Hazardous Waste Management Regulations, polychlorinated biphenyls (PCB) wastes as defined in RCRA Part 761, and wastes not specifically allowed by the permit. This program must include, at a minimum:

(1) Random inspections of incoming loads unless the owner or operator takes other steps to ensure that incoming loads do not contain regulated hazardous wastes, PCB wastes, or wastes not specifically allowed by the permit;

(2) Records of any inspections;

(3) Training of facility personnel to recognize wastes not specifically allowed by the permit, regulated hazardous waste and PCB wastes; and

(4) Notification of the Department if a regulated hazardous waste or PCB waste is discovered at the facility.

b. For purposes of this section, "regulated hazardous waste" means an industrial solid waste that is a hazardous waste, as defined in R.61-79.261.3, that is not excluded from regulation as a hazardous waste under R.61-79.261.4(b) or was not generated by a conditionally exempt small quantity generator as defined in R.61-79.261.5.

c. The ISWLF shall, prior to receipt of any waste materials which are not specifically listed in the permit application, submit for Department approval, and implement, a plan to analyze and characterize the waste materials to determine the suitability for disposal in the landfill.

d. An owner or operator may provide information concerning an existing program which prevents the disposal of industrial solid waste which is not allowed by permit, regulated hazardous waste, and PCB containing waste. The Department may allow the continued use of the existing program in lieu of the program described in Section 16.20.a. through c., provided the owner or operator can demonstrate that the existing program is effective.

16.21. COVER MATERIAL REQUIREMENTS

a. Except as provided in paragraphs c. and d. of this section, the owners or operators of all ISWLFs must cover disposed industrial solid waste with six (6) inches of earthen material at the end of each operating day, or at more frequent intervals if necessary, to control disease vectors, fires, odors, blowing

litter, and scavenging.

b. The industrial waste disposal facility shall have an adequate quantity of acceptable earth (or approved alternate) cover for routine operations. If the material does not originate on site, the permit application should indicate the calculated volume of material needed for cover, provide assurances that off-site quantities of cover material are available, the location of any earth stockpiles, and any provisions for saving topsoil for use as final cover. The earth cover material shall be easily workable and compactable, shall be free of large objects that would hinder compaction, and shall not contain organic matter conducive to the harborage and/or breeding of vectors or nuisance animals.

c. Alternative materials of an alternative thickness (other than at least six (6) inches of earthen material) may be approved by the Department on a case by case basis if the owner or operator demonstrates that the alternative material and thickness control disease vectors, fires, odors, blowing litter, and scavenging without presenting a threat to human health and the environment.

d. The Department may approve an alternate frequency of cover placement, or not require cover placement, based upon the physical and chemical nature of the waste stream, on a case by case basis.

16.22. DISEASE VECTOR CONTROL

a. Owners or operators of all ISWLFs must prevent or control on-site populations of disease vectors, as necessary, using techniques appropriate for the protection of human health and the environment.

b. For purposes of this section, "disease vectors" means any rodents, flies, mosquitoes, or other animals, including insects, capable of transmitting disease to humans.

16.23. EXPLOSIVE GASES CONTROL

a. Owners or operators of all ISWLFs must ensure, as necessary, that:

(1) The concentration of methane gas generated by the facility, if applicable, does not exceed twenty-five (25) percent of the lower explosive limit for methane in facility structures (excluding gas control or recovery system components); and

(2) The concentration of methane gas does not exceed the lower explosive limit for methane at the facility property boundary.

b. If applicable, owners or operators of all ISWLFs must implement a routine methane monitoring program to ensure that the standards of paragraph a. of this section are met.

(1) The type and frequency of monitoring must be determined based on the following factors:

(a) Soil conditions;

(b) The hydrogeologic conditions surrounding the facility;

- (c) The hydraulic conditions surrounding the facility; and
 - (d) The location of facility structures and property boundaries.
- (2) The minimum frequency of monitoring shall be quarterly.
- c. If methane gas levels exceeding the limits specified in paragraph a. of this section are detected, the owner or operator must:
- (1) Immediately take all necessary steps to ensure protection of human health and notify the Department;
 - (2) Within seven (7) days of detection, place in the operating record the methane gas levels detected and a description of the steps taken to protect human health; and
 - (3) Within sixty (60) days of detection, implement a remediation plan for the methane gas releases, place a copy of the plan in the operating record, and notify the Department that the plan has been implemented. The plan shall describe the nature and extent of the problem and the proposed remedy.
- d. For purposes of this section, "lower explosive limit" means the lowest percent by volume of a mixture of explosive gases in air that will propagate a flame at 25°C and atmospheric pressure.

16.24. AIR CRITERIA

- a. [Reserved]
- b. Open burning of industrial solid waste, except for the infrequent burning of agricultural wastes, silvicultural wastes, landclearing debris, diseased trees, or debris from emergency clean-up operations, all of which require prior Department approval, is prohibited at all ISWLFs.
- c. Blowing litter shall be controlled at the ISWLF. The entire ISWLF facility shall be policed as necessary to remove any accumulations of blown litter.

16.25. ACCESS REQUIREMENTS

- a. Owners or operators of all ISWLFs must control public access and prevent unauthorized vehicular traffic and illegal dumping of wastes by using artificial barriers, natural barriers, or both, as appropriate to protect human health and the environment.
- b. An all-weather access road shall be provided to the site.

16.26. RUN-ON/RUN-OFF CONTROL SYSTEMS

- a. Owners or operators of all ISWLFs must design, construct, and maintain:
 - (1) A run-on control system to prevent flow onto the active portion of the landfill during the peak

discharge from a twenty five (25) year storm;

(2) A run-off control system from the active portion of the landfill to collect and control at least the water volume resulting from a twenty four (24) hour, twenty five (25) year storm.

b. Run-off from the active portion of the landfill must be properly handled.

16.27. [Reserved]

16.28. LIQUIDS RESTRICTIONS

a. Bulk or noncontainerized liquid waste may not be placed in ISWLFs unless:

(1) The waste is leachate or gas condensate derived from the ISWLF and the ISWLF, whether it is new or existing, is designed with a liner and leachate collection system as described in 16.40.a. of this regulation. Leachate or gas condensate may only be placed in the ISWLF on a temporary basis not to exceed ninety (90) days with Departmental approval to allow for leachate and gas condensate management during emergency situations.

(2) [Reserved]

b. For purposes of this section:

(1) "Liquid waste" means any waste material that is determined to contain "free liquids" as defined by Method 9095 (Paint Filter Liquids Test), as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (EPA Pub. No. SW-846, as amended by EPA final updates).

(2) "Gas condensate" means the liquid generated as a result of gas recovery process(es) at the ISWLF.

16.29. RECORDKEEPING REQUIREMENTS

a. The owner or operator of an ISWLF must record and retain near the facility in an operating record or in an alternative location approved by the Department the following information as it becomes available:

(1) Any location restriction demonstration required under Subpart B of this part;

(2) Inspection records, training procedures, and notification procedures required in section 16.20. of this part;

(3) Gas monitoring results from monitoring and any remediation plans required by section 16.23. of this part;

(4) Any demonstration, certification, finding, monitoring, testing, or analytical data required by Subpart E of this part;

(5) Closure and post-closure care plans, updates to the closure and post-closure care plan, and any monitoring, testing, or analytical data as required by section 16.60. and section 16.61. of this part;

(6) Any cost estimates and financial assurance documentation required by Subpart G of this part; and

(7) The results of any environmental monitoring or testing performed in accordance with this regulation or the operating permit for the facility.

b. All information contained in the operating record must be furnished upon request to the Department or be made available at all reasonable times for inspection by the Department.

c. The owner/operator of all commercial ISWLF facilities must record in an operating record, information concerning the type, weight, and county and State of origin of waste delivered to the facility. A summary of this information must be submitted to the Department no later than October 15 of each year, for the previous fiscal year, on a form approved by the Department.

d. The Department can set alternative schedules for recordkeeping and notification requirements as specified in paragraphs a. and b. of this section.

16.30. SCALE INSTALLATION

a. Each owner or operator of a commercial industrial solid waste landfill shall install and/or maintain scales capable of accurately determining the weight of incoming waste streams. All non-commercial industrial solid waste landfills must provide an annual estimate of the volume and weight of waste received.

b. [Reserved]

16.31. EQUIPMENT

a. The following equipment should be available as necessary to ensure operations as approved in the operating plan for the ISWLF facility:

(1) Equipment or adequate contractual arrangements for equipment sufficient for excavating, earth moving, spreading, compacting and covering operations;

(2) Sufficient reserve equipment, or arrangements to provide alternate equipment within twenty-four (24) hours following equipment breakdown; and,

(3) Equipment to extinguish fires or arrangements to provide for fire protection.

b. [Reserved]

16.32. SUPERVISION AND INSPECTION

a. Routine inspection and evaluation of landfill operations will be made by a representative of the Department. A notice of any deficiencies, together with any recommendations for their correction, will be provided to the owner or operator responsible for the operation of the ISWLF.

b. Inspection of all ISWLF facilities shall be made at completion of the closure period, and at the end of the post-closure care period by a representative of the Department. Any necessary corrective work shall be performed before the landfill project is accepted as completed.

16.33. LEACHATE HANDLING AGREEMENT

a. Facilities with a leachate collection system shall obtain either a legal document (contract, local permit, etc.) certifying acceptance of leachate by the operator of a permitted wastewater treatment facility for the discharge of leachate to that facility, or a State Pollutant Discharge Elimination System permit shall be obtained prior to initial receipt of waste at the facility.

b. Facilities which wish to discharge leachate to a wastewater treatment facility under the same ownership or control as the ISWLF must verify that the wastewater treatment facility is capable of treating the additional wastewater.

16.34. LEACHATE CONTROL

a. The owner or operator of a Class 2 or Class 3 ISWLF shall use its best efforts to ensure that the leachate head above the liner system does not exceed one (1) foot, except for brief periods not to exceed one (1) week, due to circumstances beyond the immediate control of the owner or operator.

b. [Reserved]

16.35. - 16.39. [Reserved]

SUBPART D -- DESIGN CRITERIA

16.40. DESIGN CRITERIA CLASS 1 ISWLF

a. New Class 1 ISWLFs shall be constructed in accordance with a design approved by the Department. The design drawings must show all dimensions, proposed trenching plans or original fill face and cover stockpile. Cross sections shall be included showing both the original and proposed fill elevations.

b. The constructed landfill subgrade material shall minimize organic material and consist of on-site soils or select fill as approved by the Department.

c. The landfill subgrade shall be graded in accordance with the requirements of the approved engineering plans, reports and specifications.

d. One permanent survey benchmark of known elevation measured from a U.S. Geological Survey

benchmark shall be established and maintained at the site. This benchmark will be the reference point for establishing horizontal and vertical elevation control.

e. A separation of two (2) feet shall be maintained between the base of the constructed disposal area and the high water table as determined by section 16.18.a.(6).

f. All storm water ditches should have a minimum slope of 0.5% or a minimum permissible non-silting velocity of two (2) feet per second. Alternative system design and maintenance which ensures proper run-on and run-off control may be approved by the Department.

g. [Reserved]

h. All excavations for waste disposal shall be at a slope of no less than two (2) percent to promote positive drainage across the bottom excavation surface and at a maximum slope not greater than thirty-three (33) percent to facilitate construction.

i. The Department may, on a case by case basis, approve other landfill designs, provided there is adequate information to demonstrate that the proposed design meets or exceeds the environmental and public health protection standards outlined in Subparts B, D and E of this regulation.

16.41. DESIGN CRITERIA CLASS 2 ISWLF

a. New Class 2 ISWLFs shall be constructed:

(1) With a clay liner, as defined in paragraph b. and k. of this section and a leachate collection system that is designed and constructed to maintain less than a one (1) foot depth of leachate over the liner, except in sumps, or

(2) In accordance with a design approved by the Department. The design must ensure that no concentration value for any constituent on the approved list of groundwater monitoring parameters exceeds the groundwater protection standard as specified in section 16.51.c. for that particular constituent, in the uppermost aquifer at the relevant point of compliance, as specified by the Department under section 16.51.

b. For purposes of this section, "clay liner" means a liner consisting of at least a two (2) foot layer of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec., or other approved material.

c. The leachate collection and removal system shall be designed and built to operate without clogging during the operational life of the site and post-closure maintenance period.

d. Filter layers shall be designed to prevent the migration of fine soil particles into a coarser grained material, and allow water or gases to freely enter a drainage medium (pipe or drainage blanket) without clogging.

e. The total thickness of the drainage and protective layers above the liner material shall be a minimum of two (2) feet thick, and shall be composed of material with a minimum hydraulic conductivity

of 1×10^{-4} cm/sec.

f. All material used in the leachate collection and removal system of the landfill shall be designed to ensure that the hydraulic leachate head on the liner system does not exceed one (1) foot as a result of a twenty four (24) hour, twenty five (25) year storm event during the active life and post-closure period of the landfill facility.

g. A foundation analysis shall be performed to determine the structural integrity of the subgrade to support the horizontal and vertical stresses and overlying facility components.

(1) The constructed landfill subgrade material shall minimize organic material and consist of on-site soils or select fill as approved by the Department.

(2) The landfill subgrade shall be graded in accordance with the requirements of the approved engineering plans, reports and specifications. The material shall be sufficiently dry and structurally sound to ensure that the first lift and all succeeding lifts of soil placed over the landfill subgrade can adequately be compacted to the design requirements.

h. When approving a design that complies with paragraph a.(2) of this section, the Department shall consider at least the following factors:

(1) The hydrogeologic characteristics of the facility and surrounding land;

(2) The climatic factors of the area; and

(3) The volume and physical and chemical characteristics of the leachate.

i. One permanent survey benchmark of known elevation measured from a U.S. Geological Survey benchmark shall be established and maintained at the site. This benchmark will be the reference point for establishing horizontal and vertical elevation control.

j. A separation of two (2) feet shall be maintained between the base of the constructed liner system and the high water table as determined by section 16.18.a.(6).

k. The clay liner system shall conform with the following:

(1) The soil shall be placed on a slope of no less than two (2) percent to promote positive drainage across the liner surface and at a maximum slope not greater than thirty-three (33) percent to facilitate construction.

(2) Compaction shall be performed by properly controlling the moisture content, lift thickness and other necessary details to obtain satisfactory results.

l. All storm water ditches should have a minimum slope of 0.5% or a minimum permissible non-silting velocity of two (2) feet per second. Alternative system design and maintenance which ensures proper run-on and run-off control may be approved by the Department.

m. For landfill expansions adjacent to existing ISWLFs, the Department may approve encroachment upon the existing landfill's side slopes only if a leachate barrier system is designed and constructed to eliminate leachate migration into the existing landfill. The expansion area shall be constructed in compliance with all applicable sections of this regulation.

n. A construction certification report shall be submitted to the Department within forty-five (45) days after the completion of construction of each lined area by an engineer registered in the state of South Carolina. This report shall include at a minimum, the information prepared in accordance with the application requirements. In addition, the construction certification report shall contain as-built drawings noting any deviations from the approved engineering plans. The construction certification report must include a comprehensive narrative by the engineer.

o. The Department may, on a case by case basis, approve other landfill designs, provided there is adequate information to demonstrate that the proposed design meets or exceeds the environmental and public health protection standards outlined in Subparts B, D and E of this regulation.

16.42. DESIGN CRITERIA CLASS 3 ISWLF

a. New Class 3 ISWLFs shall be constructed:

(1) With a composite liner, as defined in paragraph b. of this section and a leachate collection system that is designed and constructed to maintain less than a one (1) foot depth of leachate over the liner, except in sumps, or

(2) In accordance with a design approved by the Department. The design must ensure that no concentration values for any constituent on the approved list of groundwater monitoring parameters exceeds the groundwater protection standard as specified in section 16.51.c. for that particular constituent, in the uppermost aquifer at the relevant point of compliance, as specified by the Department under section 16.51.

b. For purposes of this section, "composite liner" means a system consisting of two (2) components; the upper component must consist of a minimum 30-mil flexible membrane liner (FML), and the lower component must consist of at least a two (2) foot layer of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec., or other approved material. FML components consisting of High Density Polyethylene (HDPE) shall be at least 60-mil thick. The FML component must be installed in direct and uniform contact with the compacted soil component.

c. The leachate collection and removal system shall be designed and built to operate without clogging during the operational life of the site and post-closure maintenance period.

d. Filter layers shall be designed to prevent the migration of fine soil particles into a coarser grained material, and allow water or gases to freely enter a drainage medium (pipe or drainage blanket) without clogging.

e. The total thickness of the drainage and protective layers above the liner material shall be a

minimum of two (2) feet thick, and shall be composed of material with a minimum hydraulic conductivity of 1×10^{-4} cm/sec.

f. All material used in the leachate collection and removal system of the landfill shall be designed to ensure that the hydraulic leachate head on the liner system does not exceed one (1) foot as a result of a 24-hour, 25-year storm event during the active life and post-closure period of the landfill facility.

g. A foundation analysis shall be performed to determine the structural integrity of the subgrade to support the horizontal and vertical stresses and overlying facility components.

(1) The constructed landfill subgrade material shall minimize organic material and consist of on-site soils or select fill as approved by the Department.

(2) The landfill subgrade shall be graded in accordance with the requirements of the approved engineering plans, reports and specifications. The material shall be sufficiently dry and structurally sound to ensure that the first lift and all succeeding lifts of soil placed over the landfill subgrade can adequately be compacted to the design requirements.

h. When approving a design that complies with paragraph a.(2) of this section, the Department shall consider at least the following factors:

(1) The hydrogeologic characteristics of the facility and surrounding land;

(2) The climatic factors of the area; and

(3) The volume and physical and chemical characteristics of the leachate.

i. One permanent survey benchmark of known elevation measured from a U.S. Geological Survey benchmark shall be established and maintained at the site. This benchmark will be the reference point for establishing horizontal and vertical elevation control.

j. A separation of two (2) feet shall be maintained between the base of the constructed liner system and the high water table as determined by section 16.18.a.(6).

k. The soil component of the liner system shall conform with the following:

(1) The soil component of the liner system shall be placed on a slope of no less than two (2) percent to promote positive drainage across the liner surface and at a maximum slope not greater than thirty-three (33) percent to facilitate construction.

(2) Compaction shall be performed by properly controlling the moisture content, lift thickness and other necessary details to obtain satisfactory results.

l. The flexible membrane liner material shall demonstrate a chemical and physical resistance to waste placement or leachate generated by the landfill. Documentation shall be submitted to ensure chemical compatibility of the geomembrane liner material chosen, or in absence of the appropriate documentation,

chemical compatibility testing will be performed using a test method acceptable to the Department. Flexible membrane liners shall be installed in accordance with the requirements of the approved engineering plans, report, specifications and manufacturer's recommendations.

m. All storm water ditches should have a minimum slope of 0.5% or a minimum permissible non-silting velocity of two (2) feet per second. Alternative system design and maintenance which ensures proper run-on and run-off control may be approved by the Department.

n. For landfill expansions adjacent to existing ISWLFs, the Department may approve encroachment upon the existing landfill's side slopes only if a leachate barrier system is designed and constructed to eliminate leachate migration into the existing landfill. The expansion area shall be constructed in compliance with all applicable sections of this regulation.

o. A construction certification report shall be submitted to the Department within forty-five (45) days after the completion of construction of each lined area by an engineer registered in the State of South Carolina. This report shall include at a minimum, the information prepared in accordance with the application requirements. In addition, the construction certification report shall contain as-built drawings noting any deviations from the approved engineering plans. The construction certification report must include a comprehensive narrative by the engineer.

p. The Department may, on a case by case basis, approve other landfill designs, provided there is adequate information to demonstrate that the proposed design meets or exceeds the environmental and public health protection standards outlined in Subparts B, D and E of this regulation.

16.43. - 16.49. [Reserved]

SUBPART E -- GROUNDWATER MONITORING AND CORRECTIVE ACTION

16.50. APPLICABILITY

a. The requirements in this subpart apply to all Class 1, Class 2, and Class 3 industrial solid waste landfills, except Class 1 industrial solid waste landfills which dispose only of wastes listed in Appendix 1. Other Class 1 industrial solid waste landfills which dispose of wastes which have been exempted from the testing requirements in accordance with Section 16.4.j. may also be exempted from the requirements of this section on a case by case basis.

b. All submittals made to the Department in compliance with this subpart shall be certified by a qualified registered professional geologist or qualified registered professional engineer.

c. Existing ISWLFs not performing groundwater monitoring prior to the effective date of this regulation shall submit a groundwater monitoring plan to be approved by the Department which meets the requirements of Subpart E to determine if any groundwater monitoring standard has been exceeded as required by section 16.1.c. The groundwater monitoring plan should be submitted within ninety (90) days of the effective date of this regulation.

d. Existing ISWLFs performing groundwater monitoring shall certify compliance with the

requirements of this subpart within ninety (90) days of the effective date of this regulation.

16.51. RELEVANT POINT OF COMPLIANCE

a. The groundwater monitoring plan shall specify the relevant point of compliance at which the groundwater protection standard as specified in section 16.51.c. will be applicable. The relevant point of compliance is a vertical surface located no more than five hundred (500) feet from the hydraulically downgradient limit of the ISWLF that extends down into the uppermost aquifer underlying the ISWLF. The relevant point of compliance shall be located on land owned by the owner of the ISWLF.

b. The relevant point of compliance shall be specified by the permit applicant and approved by the Department. In determining the relevant point of compliance, the applicant shall document that the following factors have been considered:

- (1) The hydrogeologic characteristics of the facility and surrounding land;
- (2) The volume and physical and chemical characteristics of the leachate;
- (3) The quantity, quality, and direction of flow of groundwater;
- (4) The proximity and withdrawal rate of the groundwater users;
- (5) The availability of alternative drinking water supplies;
- (6) The existing quality of the groundwater, including other sources of contamination and their cumulative impacts on the groundwater and whether groundwater is currently used or reasonably expected to be used for drinking water;
- (7) Public health, safety, and welfare effects; and
- (8) Practicable capability of the owner or operator.

c. The groundwater protection standard for ISWLFs shall consist of:

- (1) The Maximum Contaminant Level (MCL) published in the South Carolina DHEC R.61-58, State Primary Drinking Water Regulations, for those constituents with a MCL;
- (2) For those constituents which have no MCL, the background concentration or the concentration determined by appropriate health based criteria; or,
- (3) Background concentrations when the MCL is exceeded in the background monitoring well(s).

16.52. GROUNDWATER MONITORING SYSTEMS

a. A groundwater monitoring system must be installed that consists of a sufficient number of wells, installed at appropriate locations and depths, to yield representative groundwater samples from the

uppermost aquifer that:

(1) Represent the quality of background groundwater that has not been affected by leakage from an ISWLF. A determination of background quality may include sampling of wells that are not hydraulically upgradient of the waste management area where:

(a) Hydrogeologic conditions do not allow the owner or operator to determine what wells are hydraulically upgradient; or

(b) Sampling at other wells will provide an indication of background groundwater quality that is as representative or more representative than that provided by the upgradient wells.

(2) Represent the quality of groundwater passing the relevant point of compliance.

b. [Reserved]

c. Monitoring wells must be approved by the Department prior to installation and constructed, at a minimum, to the standards established in the South Carolina DHEC R.61-79, Well Standards and Regulations.

(1) The owner or operator must notify the Department of the design, installation, development, and decommission of any monitoring wells, piezometers and other measurement, sampling, and analytical devices; and,

(2) The monitoring wells, piezometers, and other measurement, sampling, and analytical devices must be operated and maintained so that they perform to design specifications throughout the life of the monitoring program.

d. The number, spacing, and depths of monitoring systems shall be:

(1) Determined based upon site-specific technical information that must include thorough characterization of:

(a) Aquifer thickness, groundwater flow rate, groundwater flow direction including seasonal and temporal fluctuations in groundwater flow; and,

(b) Saturated and unsaturated geologic units and fill materials overlying the uppermost aquifer, materials comprising the uppermost aquifer, and materials comprising the confining unit defining the lower boundary of the uppermost aquifer; including, but not limited to: thicknesses, stratigraphy, lithology, hydraulic conductivities, porosities and effective porosities.

16.53. GROUNDWATER SAMPLING AND ANALYSIS REQUIREMENTS

a. The groundwater monitoring program must include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide an accurate representation of groundwater quality. The owner or operator must submit to the Department for review and approval, the sampling and

analysis procedures and protocols to be used at the facility. The program must include procedures and techniques for:

- (1) Sample collection;
- (2) Sample preservation and shipment;
- (3) Analytical procedures;
- (4) Chain of custody control; and
- (5) Quality assurance and quality control.

b. The groundwater monitoring program must include sampling and analytical methods that are appropriate for groundwater sampling and that accurately measure hazardous constituents and other monitoring parameters in groundwater samples. Detection limits for those parameters that have a MCL, shall be, at a minimum, below the established MCL. Groundwater samples required by this paragraph shall not be field-filtered prior to laboratory analysis.

c. The sampling procedures and frequency must be protective of human health and the environment.

d. Groundwater elevations must be measured in each well prior to purging, each time groundwater is sampled. The owner or operator must determine the rate and direction of groundwater flow each time groundwater is sampled. Groundwater elevations in wells which monitor the same waste management area must be measured on the same day to avoid temporal variations in groundwater flow which could preclude an accurate determination of groundwater flow rate and direction.

e. The owner or operator must establish background groundwater quality in the hydraulically upgradient or background well(s) for each of the constituents required in the groundwater monitoring program that applies to the ISWLF. In order to establish background groundwater quality in a reasonable period of time, the owner or operator must collect and analyze a minimum of four (4) independent groundwater samples from each background well prior to the end of the first year of groundwater sampling. The Department may, on a case-by-case basis, approve an alternate subset of wells to be sampled for the establishment of background groundwater quality. Pursuant to section 16.52.a.(1), the above samples must represent the quality of background groundwater that has not been affected by leakage from an ISWLF.

f. The Department may require the owner or operator to submit a groundwater monitoring statistical analysis plan for review and approval. The statistical method chosen to evaluate groundwater monitoring data shall be appropriate for application to groundwater data, and shall be appropriate for the site specific distribution of chemical parameters and hazardous constituents.

16.54. DETECTION MONITORING PROGRAM

a. Detection monitoring is required at ISWLFs at all groundwater monitoring wells approved by the Department for routine monitoring.

(1) The Department will approve an appropriate list of groundwater monitoring parameters for routine monitoring based on the chemical and physical nature of the waste stream received by the ISWLF and analytical data for the waste stream provided by the owner and or operator.

(2) [Reserved]

b. The monitoring frequency for all constituents approved by the Department for routine monitoring shall be at least semiannual during the active life of the facility (including closure) and the post-closure period. At least one sample from each well (background and downgradient) must be collected and analyzed during each sampling event.

c. The Department may specify an appropriate alternative frequency for routine sampling and analysis during the active life (including closure) and the post-closure care period. The alternative frequency during the active life (including closure) shall be, at a minimum, semiannual. The alternative frequency shall be based on consideration of the following factors:

- (1) Lithology of the aquifer and unsaturated zone;
- (2) Hydraulic conductivity of the aquifer and unsaturated zone;
- (3) Groundwater flow rates;
- (4) Minimum distance between upgradient edge of the ISWLF and downgradient monitoring well screen (minimum distance of travel); and
- (5) Resource value of the aquifer.

d. If the owner or operator determines that a groundwater protection standard has potentially been exceeded for one or more of the constituents required for routine monitoring at any monitoring well at the relevant point of compliance, the owner or operator:

(1) Shall, within fourteen (14) days of this finding, notify the Department which constituents have potentially exceeded groundwater standards;

(2) Shall, within thirty (30) days of this finding, resample the monitoring well(s) in question to determine the validity of the data, and report the results of this resampling within forty-five (45) days to the Department; and

(3) If the data are validated by resampling, shall establish an assessment monitoring program meeting the requirements of 16.55. except as provided for in paragraph 16.54.e. of this section.

e. The owner/operator may demonstrate that a source other than an ISWLF caused the exceedance of a groundwater protection standard or that its exceedance resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. A certified report documenting this demonstration must be approved by the Department. If a successful demonstration is made and

documented, the owner or operator may continue detection monitoring as specified in this section. If, after ninety (90) days, a successful demonstration is not made, the owner or operator must initiate the assessment monitoring program as required in 16.55.

f. The results and supporting documentation of all chemical analysis of groundwater samples taken during routine monitoring shall be submitted to the Department within sixty (60) days of sample collection. On sampling events where an annual report is to be submitted to the Department pursuant to 16.54.g., the annual report shall satisfy this requirement.

g. The owner/operator shall submit to the Department on or before the anniversary date of issuance of the permit, an annual report containing all of the analytical and statistical analysis performed at the site for the previous year as a result of the requirements of this regulation. The annual report shall contain the following:

(1) A determination of the technical sufficiency of the monitoring well network in detecting a release from the facility;

(2) The determination of groundwater elevations, groundwater flow directions and groundwater flow rates. Groundwater flow directions shall be based upon interpretation of a potentiometric map prepared utilizing the most current groundwater elevations measured at the site;

(3) The results of the statistical analysis performed on the analytical data, as necessary;

(4) The results and supporting documentation of all chemical analysis of groundwater taken during the previous sampling event; and,

(5) Any other information related to environmental monitoring deemed necessary by the Department.

16.55. ASSESSMENT AND CORRECTIVE ACTION MONITORING PROGRAMS

a. Assessment monitoring is required whenever a groundwater protection standard has been exceeded in any point of compliance well and validated in accordance with section 16.54.d. for any of the parameters required for routine monitoring, unless a successful demonstration has been made in accordance with section 16.54.e.

(1) The Department may require additional monitoring parameters or frequency during assessment or corrective action implementation to ensure protection of human health and the environment.

(2) [Reserved]

b. Within ninety (90) days of triggering an assessment monitoring program, the owner or operator shall submit for Department review and approval a groundwater quality assessment plan for characterizing the nature and extent of the release. The groundwater quality assessment plan shall contain a detailed schedule for the implementation and completion of the provisions of the plan.

c. Upon approval of the groundwater quality assessment plan, the owner or operator shall implement the provisions of the groundwater quality assessment plan and begin characterizing the nature and extent of the release by subsurface investigation as necessary. The groundwater quality assessment shall be completed in a timely manner as outlined in the plan. Data gathered from the groundwater quality assessment may be subject to a risk assessment.

d. Upon confirmation of exceedance of a groundwater protection standard, the owner or operator shall notify all persons who own land or reside on land that directly overlies any part of the plume of contamination if contaminants have migrated off-site as indicated by the sampling of groundwater monitoring wells.

e. Upon completion of the groundwater quality assessment, the owner or operator shall submit to the Department a corrective action plan detailing the actions to be taken to address groundwater quality, including any proposal for risk based criteria consistent with South Carolina DHEC R.61-68, Water Classifications and Standards, and a schedule for the initiation and completion of remedial activities. The schedule shall require the initiation and completion of the corrective action program within a reasonable time period as determined by technical factors.

(1) Corrective action remedies shall:

(a) Be protective of human health and the environment;

(b) Attain groundwater remediation levels approved by the Department;

(c) Control the source(s) of releases so as to reduce or eliminate, to the maximum extent practicable, further releases of constituents into the environment that may pose a threat to human health or the environment; and,

(d) Comply with all applicable standards for management of wastes.

(2) [Reserved]

f. The owner or operator shall implement the corrective action plan within ninety (90) days of approval by the Department. The corrective action plan shall also contain provisions for the installation of a groundwater monitoring program and network to demonstrate the effectiveness of the corrective action program.

g. The owner or operator shall continue the corrective action measures to the extent necessary to ensure that the groundwater remediation levels approved by the Department are not exceeded for a period of three (3) consecutive years. The Department may specify an alternative length of time during which the owner or operator must demonstrate that the concentrations have not exceeded the groundwater remediation levels approved by the Department taking into consideration:

(1) Extent and concentration of the release(s);

(2) Behavior characteristics of the constituents in the groundwater;

(3) Accuracy of monitoring or modeling techniques, including any seasonal, meteorological, or other environmental variabilities that may affect the accuracy; and

(4) Characteristics of the groundwater.

h. The owner or operator shall submit semi-annually to the Department a report which discusses the effectiveness of the corrective action program.

i. If the owner or operator or the Department determines that the corrective action program no longer performs to design specifications or is ineffective in achieving the required results, the owner or operator shall submit within ninety (90) days of that determination, a proposal to make appropriate changes or revisions to the corrective action program.

j. Corrective action activities shall be continued, as necessary, throughout the active life of the facility and the post-closure period. If groundwater remediation levels approved by the Department are exceeded at the end of the post-closure care period, the owner or operator shall be responsible for maintaining the corrective action program to the extent necessary.

k. Upon approval by the Department that the corrective action program is completed, the owner or operator shall return to detection monitoring of the facility for the remainder of the active life and post-closure care period, unless additional groundwater quality assessment or corrective actions are required.

16.56. - 16.59 [Reserved]

SUBPART F -- CLOSURE AND POST-CLOSURE CARE

16.60. CLOSURE CRITERIA

a. Owners or operators of all Class 1, Class 2, and Class 3 ISWLFs must install a final cover system that is designed to minimize infiltration and erosion. The final cover system must be designed and constructed to:

(1) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present, or a permeability no greater than 1×10^{-5} cm/sec, whichever is less, and

(2) Minimize infiltration through the closed ISWLF by the use of an infiltration layer that contains a minimum eighteen (18) inches of earthen material, and

(3) Minimize erosion of the final cover by the use of an erosion layer that contains a minimum one (1) foot of earthen material that is capable of sustaining native plant growth.

b. The Department may approve an alternative final cover design for Class 1, Class 2, and Class 3 ISWLFs that includes:

(1) An infiltration layer that achieves an equivalent reduction in infiltration as the infiltration layer specified in paragraphs a.(1) and a.(2) of this section, and

(2) An erosion layer that provides equivalent protection from wind and water erosion as the erosion layer specified in a.(3) of this section.

c. The erosion layer shall be designed to maintain vegetative growth over the landfill.

d. All facilities constructed with composite liner systems in accordance with this regulation shall install a final cover system which consists, of at a minimum:

(1) A gas management layer or layers, or other gas management design, as necessary;

(2) Eighteen (18) inches of soil with a maximum permeability of 1×10^{-5} centimeters per second, and capable of providing a suitable foundation for the flexible membrane liner specified in 16.60.d.(3);

(3) A minimum 20-mil flexible membrane liner with a maximum permeability equal to or less than the bottom liner system, if HDPE is used as the FML, then a sixty (60) mil thickness is required;

(4) A drainage layer; and,

(5) A minimum of two (2) feet of soil capable of supporting native vegetation.

e. All ISWLFs closed utilizing a flexible membrane cover system shall be constructed to preclude precipitation migration into the landfill. All flexible membrane cover systems shall be constructed in accordance with the requirements of the approved engineering plans, reports, specifications and manufacturer's recommendations.

f. A written closure plan must be submitted to the Department that describes the steps necessary to close all ISWLFs at any point during their active life in accordance with the cover design requirements in sections 16.60.a., b., d., or e., as applicable. The closure plan, at a minimum, must include the following information:

(1) A description of the final cover, designed in accordance with section 16.60. and the methods and procedures to be used to install the cover;

(2) An estimate of the largest area of the ISWLF ever requiring a final cover as required under section 16.60. at any time during the active life;

(3) An estimate of the maximum inventory of wastes ever on-site over the active life of the landfill facility; and

(4) A schedule for completing all activities necessary to satisfy the closure criteria in section 16.60.

g. A closure plan must be submitted to the Department within one hundred eighty (180) days of the effective date of this regulation, or prior to permit issuance, whichever is later. The closure plan must be updated if any changes occur at the facility which require a deviation from the approved closure plan. The closure plan must be submitted by, signed, and stamped by a professional engineer duly licenced to

practice in the State of South Carolina. All individual drawings and plans shall be signed and stamped separately by the professional engineer.

h. Prior to beginning closure of each ISWLF as specified in section 16.60.j., an owner or operator must notify the Department that a notice of the intent to close the ISWLF has been placed in the operating record.

i. The owner or operator must begin closure activities of each ISWLF no later than thirty (30) days after the date on which the ISWLF receives the known final receipt of wastes or, if the ISWLF has remaining capacity and there is a reasonable likelihood that the ISWLF will receive additional wastes, no later than one year after the most recent receipt of wastes. Extensions beyond the one-year deadline for beginning closure may be granted by the Department if the owner or operator demonstrates that the ISWLF has the capacity to receive additional wastes and the owner or operator has taken and will continue to take all steps necessary to prevent threats to human health and the environment from the unclosed ISWLF.

j. The owner or operator of all ISWLFs shall complete closure activities of each ISWLF in accordance with the closure plan within one hundred eighty (180) days following the beginning of closure as specified in section 16.60.i. Extensions of the closure period may be granted by the Department if the owner or operator demonstrates that closure will, of necessity, take longer than one hundred eighty (180) days and they have taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed ISWLF.

k. Following closure of each ISWLF, the owner or operator must notify the Department that a certification, signed by a South Carolina registered professional engineer, verifying that closure has been completed in accordance with the closure plan, has been placed in the operating record.

l. Following closure of all ISWLFs, the owner or operator must record a notation on the deed to the landfill facility property, or some other instrument that is normally examined during title search, and notify the Department that the notation has been recorded and a copy has been placed in the operating record.

(1) The notation on the deed must in perpetuity notify any potential purchaser of the property that:

(a) The land has been used as a landfill facility; and

(b) Its use is restricted under section 16.61.c.(3).

(2) [Reserved]

m. The owner or operator may request permission from the Department to remove the notation from the deed if all wastes are removed from the facility.

n. The Department may, on a case by case basis, approve other landfill closure designs, provided there is adequate information to demonstrate that the proposed design meets or exceeds the environmental and public health protection standards outlined in Subparts B, C, D and E of this regulation.

16.61. POST-CLOSURE CARE REQUIREMENTS

a. Following closure of each ISWLF, the owner or operator must conduct post-closure care. Post-closure care must be conducted for a minimum thirty (30) years, except as provided under paragraph b. of this section, and consist of at least the following:

(1) Maintaining the integrity and effectiveness of any final cover, including making repairs to the cover as necessary to correct the effects of settlement, subsidence, erosion, or other events, and preventing run-on and run-off from eroding or otherwise damaging the final cover;

(2) Maintaining and operating the leachate collection system in accordance with the requirements in sections 16.41. or 16.42., if applicable. The Department may allow the owner or operator to stop managing leachate if the owner or operator demonstrates to the Department=s satisfaction that leachate no longer poses a threat to human health and the environment;

(3) Monitoring the groundwater in accordance with the requirements of subpart E of this part and maintaining the groundwater monitoring system, if applicable; and

(4) Maintaining and operating the gas monitoring system in accordance with the requirements of section 16.23.

b. The length of the post-closure care period may be:

(1) Increased by the Department if the Department determines that the lengthened period is necessary to protect human health and the environment.

(2) Decreased by the Department if the owner or operator can provide technical rationale that the decreased post-closure monitoring period is sufficient to protect human health and the environment.

c. A written post-closure plan must be submitted to the Department that includes, at a minimum, the following information:

(1) A description of the monitoring and maintenance activities required in section 16.61.(a) for each ISWLF, and the frequency at which these activities will be performed;

(2) Name, address, and telephone number of the person or office to contact about the facility during the post-closure period; and

(3) A description of the planned uses of the property during the post-closure period. Post-closure use of the property shall not disturb the integrity of the final cover, liner(s), or any other components of the containment system, or the function of the monitoring systems unless necessary to comply with the requirements in Part 16. The Department may approve any other disturbance of the containment system if the owner or operator demonstrates that disturbance of the final cover, liner or other component of the containment system, including any removal of waste, will not increase the potential threat to human health or the environment.

d. A post-closure plan must be submitted to the Department within one hundred eighty (180) days of the effective date of this regulation, or prior to permit issuance, whichever is later. The post-closure plan must be updated if any changes occur at the facility which require a deviation from the approved post-closure plan. The post-closure plan must be submitted by, signed, and stamped by a professional engineer duly licensed to practice in the State of South Carolina. All individual; drawings and plans must be signed and stamped separately by the professional engineer.

e. Following completion of the post-closure care period for each ISWLF, the owner or operator must notify the Department that a certification, signed by a South Carolina registered professional engineer, verifying that post-closure care has been completed in accordance with the post-closure plan, has been placed in the operating record. At the end of the post-closure care period the Department will inspect the completed ISWLF.

16.62. - 16.69. [Reserved]

SUBPART G -- FINANCIAL ASSURANCE CRITERIA

16.70. APPLICABILITY AND EFFECTIVE DATE

a. The requirements of this subpart apply to owners and operators of all commercial ISWLFs, except owners or operators who are State or Federal government entities whose debts and liabilities are the debts and liabilities of a State or the United States.

b. The requirements of this subpart become effective one hundred eighty (180) days after the effective date of this regulation.

16.71. FINANCIAL ASSURANCE FOR CLOSURE

a. The owner or operator must have a detailed written estimate, in current dollars, of the cost of hiring a third party to close the largest area of the ISWLF ever requiring a final cover as required under section 16.60 at any time during the active life in accordance with the closure plan. The owner or operator must notify the Department that the estimate has been placed in the operating record.

(1) The cost estimate must equal the cost of closing the largest area of the ISWLF ever requiring a final cover at any time during the active life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan (see section 16.60.c.(2) of this part).

(2) During the active life of the ISWLF, the owner or operator must annually adjust the closure cost estimate for inflation.

(3) The owner or operator must increase the closure cost estimate and the amount of financial assurance provided under paragraph b. of this section if changes to the closure plan or ISWLF conditions increase the maximum cost of closure at any time during the remaining active life.

(4) The owner or operator may reduce the closure cost estimate and the amount of financial assurance provided under paragraph b. of this section if the cost estimate exceeds the maximum cost of

closure at any time during the remaining life of the ISWLF. The owner or operator must notify the Department that the justification for the reduction of the closure cost estimate and the amount of financial assurance has been placed in the operating record.

b. The owner or operator of each ISWLF must establish financial assurance for closure of the ISWLF in compliance with section 16.74. The owner or operator must provide continuous coverage for closure until released from financial assurance requirements by demonstrating compliance with sections 16.60.h. and i.

16.72. FINANCIAL ASSURANCE FOR POST-CLOSURE CARE

a. The owner or operator must have a detailed written estimate, in current dollars, of the cost of hiring a third party to conduct post-closure care for the ISWLF in compliance with the post-closure plan developed under section 16.61. of this part. The post-closure cost estimate used to demonstrate financial assurance in paragraph b. of this section must account for the total costs of conducting post-closure care, including annual and periodic costs as described in the post-closure plan over the entire post-closure care period. The owner or operator must notify the Department that the estimate has been placed in the operating record.

(1) The cost estimate for post-closure care must be based on the most expensive costs of post-closure care during the post-closure care period.

(2) During the active life of the ISWLF and during the post-closure care period, the owner or operator must annually adjust the post-closure cost estimate for inflation.

(3) The owner or operator must increase the post-closure care cost estimate and the amount of financial assurance provided under paragraph b. of this section if changes in the post-closure plan or ISWLF conditions increase the maximum costs of post-closure care.

(4) The owner or operator may reduce the post-closure cost estimate and the amount of financial assurance provided under paragraph b. of this section if the cost estimate exceeds the maximum costs of post-closure care remaining over the post-closure care period. The owner or operator must notify the Department that the justification for the reduction of the post-closure cost estimate and the amount of financial assurance has been placed in the operating record.

b. The owner or operator of each ISWLF must establish, in a manner in accordance with section 16.74., financial assurance for the costs of post-closure care as required under section 16.61. of this part. The owner or operator must provide continuous coverage for post-closure care until released from financial assurance requirements for post-closure care by demonstrating compliance with section 16.61.e.

16.73. FINANCIAL ASSURANCE FOR CORRECTIVE ACTION

a. An owner or operator of an ISWLF required to undertake a corrective action program under section 16.55. of this part must have a detailed written estimate, in current dollars, of the cost of hiring a third party to perform the corrective action in accordance with the program required under section 16.55. of this part. The corrective action cost estimate must account for the total costs of corrective action

activities as described in the corrective action plan for the entire corrective action period. The owner or operator must notify the Department that the estimate has been placed in the operating record.

(1) The owner or operator must annually adjust the estimate for inflation until the corrective action program is completed in accordance with section 16.55. of this part.

(2) The owner or operator must increase the corrective action cost estimate and the amount of financial assurance provided under paragraph b. of this section if changes in the corrective action program or ISWLF conditions increase the maximum costs of corrective action.

(3) The owner or operator may reduce the amount of the corrective action cost estimate and the amount of financial assurance provided under paragraph b. of this section if the cost estimate exceeds the maximum remaining costs of corrective action. The owner or operator must notify the Department that the justification for the reduction of the corrective action cost estimate and the amount of financial assurance has been placed in the operating record.

b. The owner or operator of each ISWLF required to undertake a corrective action program under section 16.55. of this part must establish, in a manner in accordance with section 16.74., financial assurance for the most recent corrective action program. The owner or operator must provide continuous coverage for corrective action until released from financial assurance requirements for corrective action by demonstrating compliance with section 16.55.

16.74. ALLOWABLE MECHANISMS

The mechanisms used to demonstrate financial assurance under this section must ensure that the funds necessary to meet the costs of closure, post-closure care, and corrective action for known releases will be available whenever they are needed. Owners and operators must choose from the options specified in paragraphs a. through j. of this section.

a. Trust Fund.

(1) An owner or operator may satisfy the requirements of this section by establishing a trust fund which conforms to the requirements of this paragraph. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency. A copy of the trust agreement must be placed in the facility's operating record.

(2) Payments into the trust fund must be made annually by the owner or operator over the term of the initial permit or over the remaining life of the ISWLF, whichever is shorter, in the case of a trust fund for closure or post-closure care, or over one-half of the estimated length of the corrective action program in the case of corrective action for known releases. This period is referred to as the pay-in period.

(3) For a trust fund used to demonstrate financial assurance for closure and post-closure care, the first payment into the fund must be at least equal to the current cost estimate for closure or post-closure care, except as provided in paragraph (j) of this section, divided by the number of years in the pay-in period as defined in paragraph (a)(2) of this section. The amount of subsequent payments must be determined by the following formula:

$$\text{Next Payment} = \frac{\text{CE}-\text{CV}}{\text{Y}}$$

where CE is the current cost estimate for closure or post-closure care (updated for inflation or other changes), CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) For a trust fund used to demonstrate financial assurance for corrective action, the first payment into the trust fund must be at least equal to one-half of the current cost estimate for corrective action, except as provided in paragraph j. of this section, divided by the number of years in the corrective action pay-in period as defined in paragraph a.(2) of this section. The amount of subsequent payments must be determined by the following formula:

$$\text{Next Payment} = \frac{\text{RB}-\text{CV}}{\text{Y}}$$

where RB is the most recent estimate of the required trust fund balance for corrective action (i.e., the total costs that will be incurred during the second half of the corrective action period), CV is the current value of the trust fund, and Y is the number of years remaining on the pay-in period.

(5) The initial payment into the trust fund must be made before the initial receipt of waste or before the effective date of this section, whichever is later, in the case of closure and post-closure care.

(6) If the owner or operator establishes a trust fund after having used one or more alternate mechanisms specified in this section, the initial payment into the trust fund must be at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to the specifications of this paragraph and section 16.74.a., as applicable.

(7) The owner or operator, or other person authorized to conduct closure, post-closure care, or corrective action activities may request reimbursement from the trustee for these expenditures. Requests for reimbursement will be granted by the trustee only if sufficient funds are remaining in the trust fund to cover the remaining costs of closure, post-closure care, or corrective action, and if justification and documentation of the cost is placed in the operating record. The owner or operator must notify the Department that the documentation of the justification for reimbursement has been placed in the operating record and that reimbursement has been received.

(8) The trust fund may be terminated by the owner or operator only if the owner or operator substitutes alternate financial assurance as specified in this section or if he is no longer required to demonstrate financial responsibility in accordance with the requirements of sections 16.71.b. or 16.72.b.

b. Surety Bond Guaranteeing Payment or Performance.

(1) An owner or operator may demonstrate financial assurance for closure or post-closure care by obtaining a payment or performance surety bond which conforms to the requirements of this paragraph. An owner or operator may demonstrate financial assurance for corrective action by obtaining a

performance bond which conforms to the requirements of this paragraph. The bond must be effective before the initial receipt of waste or before the effective date of this section, whichever is later, in the case of closure and post-closure care. The owner or operator must notify the Department that a copy of the bond has been placed in the operating record. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The penal sum of the bond must be in an amount at least equal to the current closure, post-closure care or corrective action cost estimate, whichever is applicable, except as provided in 16.74.k.

(3) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(4) The owner or operator must establish a standby trust fund. The standby trust fund must meet the requirements of section 16.74.a. except the requirements for initial payment and subsequent annual payments specified in sections 16.74.a.(2), (3), (4) and (5).

(5) Payments made under the terms of the bond will be deposited by the surety directly into the standby trust fund. Payments from the trust fund must be approved by the trustee.

(6) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner and operator and to the Department one hundred twenty (120) days in advance of cancellation. If the surety cancels the bond, the owner or operator must obtain alternate financial assurance as specified in this section.

(7) The owner or operator may cancel the bond only if alternate financial assurance is substituted as specified in this section or if the owner or operator is no longer required to demonstrate financial responsibility in accordance with sections 16.71.b. or 16.72.b.

c. Letter of Credit.

(1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit which conforms to the requirements of this paragraph. The letter of credit must be effective before the initial receipt of waste or before the effective date of this section, whichever is later, in the case of closure and post-closure care. The owner or operator must notify the Department that a copy of the letter of credit has been placed in the operating record. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a Federal or State agency.

(2) A letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: name, and address of the facility, and the amount of funds assured, must be included with the letter of credit in the operating record.

(3) The letter of credit must be irrevocable and issued for a period of at least one (1) year in an amount at least equal to the current cost estimate for closure, post-closure care or corrective action,

whichever is applicable, except as provided in section 16.74.a. The letter of credit must provide that the expiration date will be automatically extended for a period of at least one year unless the issuing institution has canceled the letter of credit by sending notice of cancellation by certified mail to the owner and operator and to the Department one hundred twenty (120) days in advance of cancellation. If the letter of credit is canceled by the issuing institution, the owner or operator must obtain alternate financial assurance.

(4) The owner or operator may cancel the letter of credit only if alternate financial assurance is substituted as specified in this section or if the owner or operator is released from the requirements of this section in accordance with sections 16.71.b. or 16.72.b.

d. Insurance.

(1) An owner or operator may demonstrate financial assurance for closure and post-closure care by obtaining insurance which conforms to the requirements of this paragraph. The insurance must be effective before the initial receipt of waste or before the effective date of this section, whichever is later. At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States. The owner or operator must notify the Department that a copy of the insurance policy has been placed in the operating record.

(2) The closure or post-closure care insurance policy must guarantee that funds will be available to close the ISWLF whenever final closure occurs or to provide post-closure care for the ISWLF whenever the post-closure care period begins, whichever is applicable. The policy must also guarantee that once closure or post-closure care begins, the insurer will be responsible for the paying out of funds to the owner or operator or other person authorized to conduct closure or post-closure care, up to an amount equal to the face amount of the policy.

(3) The insurance policy must be issued for a face amount at least equal to the current cost estimate for closure or post-closure care, whichever is applicable, except as provided in section 16.74.a. The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(4) An owner or operator, or any other person authorized to conduct closure or post-closure care, may receive reimbursements for closure or post-closure expenditures, whichever is applicable. Requests for reimbursement will be granted by the insurer only if the remaining value of the policy is sufficient to cover the remaining costs of closure or post-closure care, and if justification and documentation of the cost is placed in the operating record. The owner or operator must notify the Department that the documentation of the justification for reimbursement has been placed in the operating record and that reimbursement has been received.

(5) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided that such consent is not unreasonably refused.

(6) The insurance policy must provide that the insurer may not cancel, terminate or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum,

provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may cancel the policy by sending notice of cancellation by certified mail to the owner and operator and to the Department one hundred twenty (120) days in advance of cancellation. If the insurer cancels the policy, the owner or operator must obtain alternate financial assurance as specified in this section.

(7) For insurance policies providing coverage for post-closure care, commencing on the date that liability to make payments pursuant to the policy accrues, the insurer will thereafter annually increase the face amount of the policy. Such increase must be equivalent to the face amount of the policy, less any payments made, multiplied by an amount equivalent to eighty-five (85) percent of the most recent investment rate or of the equivalent coupon-issue yield announced by the U.S. Treasury for 26-week Treasury securities.

(8) The owner or operator may cancel the insurance policy only if alternate financial assurance is substituted as specified in this section or if the owner or operator is no longer required to demonstrate financial responsibility in accordance with the requirements of sections 16.71.b. or 16.72.b.

e. Corporate Financial Test.

[reserved]

f. Local Government Financial Test. An owner or operator that satisfies the requirements of paragraphs f.(1) through (3) of this section may demonstrate financial assurance up to the amount specified in paragraph f.(4) of this section:

(1) Financial component.

(a) The owner or operator must satisfy paragraph f.(1)(a)(i) or (ii) of this section as applicable:

(i) If the owner or operator has outstanding, rated, general obligation bonds that are not secured by insurance, a letter of credit, or other collateral or guarantee, it must have a current rating of Aaa, Aa, A, or Baa, as issued by Moody's, or AAA, AA, A, or BBB, as issued by Standard and Poor's on all such general obligation bonds; or

(ii) The owner or operator must satisfy each of the following financial ratios based on the owner or operator's most recent audited annual financial statement:

(aa) A ratio of cash plus marketable securities to total expenditures greater than or equal to 0.05; and

(bb) A ratio of annual debt service to total expenditures less than or equal to 0.20.

(b) The owner or operator must prepare its financial statements in conformity with Generally Accepted Accounting Principles for governments and have its financial statements audited by an independent certified public accountant (or appropriate State agency).

(c) A local government is not eligible to assure its obligations under section 16.74.f. if it:

- (i) Is currently in default on any outstanding general obligation bonds; or
- (ii) Has any outstanding general obligation bonds rated lower than Baa as issued by Moody's or BBB as issued by Standard and Poor's; or
- (iii) Operated at a deficit equal to five percent or more of total annual revenue in each of the past two fiscal years; or
- (iv) Receives an adverse opinion, disclaimer of opinion, or other qualified opinion from the independent certified public accountant (or appropriate State agency) auditing its financial statement as required under paragraph f.(1)(b) of this section. However, the Department may evaluate qualified opinions on a case-by-case basis and allow use of the financial test in cases where the Department deems the qualification insufficient to warrant disallowance of use of the test.

(d) The following terms used in this paragraph are defined as follows:

- (i) Deficit equals total annual revenues minus total annual expenditures;
- (ii) Total revenues include revenues from all taxes and fees but does not include the proceeds from borrowing or asset sales, excluding revenue from funds managed by local government on behalf of a specific third party;
- (iii) Total expenditures include all expenditures excluding capital outlays and debt repayment;
- (iv) Cash plus marketable securities is all the cash plus marketable securities held by the local government on the last day of a fiscal year, excluding cash and marketable securities designated to satisfy past obligations such as pensions; and
- (v) Debt service is the amount of principal and interest due on a loan in a given time period, typically the current year.

(2) Public notice component. The local government owner or operator must place a reference to the closure and post-closure care costs assured through the financial test into its next comprehensive annual financial report (CAFR) after the effective date of this section or prior to the initial receipt of waste at the facility, whichever is later. Disclosure must include the nature and source of closure and post-closure care requirements, the reported liability at the balance sheet date, the estimated total closure and post-closure care cost remaining to be recognized, the percentage of landfill capacity used to date, and the estimated landfill life in years. A reference to corrective action costs must be placed in the CAFR not later than one hundred twenty (120) days after the corrective action remedy has been selected in accordance with the requirements of section 16.58. For the first year the financial test is used to assure costs at a particular facility, the reference may instead be placed in the operating record until issuance of the next available CAFR if timing does not permit the reference to be incorporated into the most recently issued CAFR or budget. For closure and post-closure costs, conformance with Government Accounting Standards Board Statement 18 assures compliance with this public notice component.

(3) Recordkeeping and reporting requirements.

(a) The local government owner or operator must place the following items in the facility's operating record:

(i) A letter signed by the local government's chief financial officer that:

(aa) Lists all the current cost estimates covered by a financial test, as described in paragraph f.(4) of this section;

(bb) Provides evidence and certifies that the local government meets the conditions of paragraphs f.(1)(a), f.(1)(b), and f.(1)(3) of this section; and

(cc) Certifies that the local government meets the conditions of paragraphs f.(2) and f.(4) of this section.

(ii) The local government's independently audited year-end financial statements for the latest fiscal year (except for local governments where audits are required every two years where unaudited statements may be used in years when audits are not required), including the unqualified opinion of the auditor who must be an independent, certified public accountant or an appropriate State agency that conducts equivalent comprehensive audits;

(iii) A report to the local government from the local government's independent certified public accountant (CPA) or the appropriate State agency based on performing an agreed upon procedures engagement relative to the financial ratios required by paragraph f.(1)(a)(ii) of this section, if applicable, and the requirements of paragraphs f.(1)(b) and f.(1)(c) (iii) and (iv) of this section. The CPA or State agency's report should state the procedures performed and the CPA or State agency's findings; and

(iv) A copy of the comprehensive annual financial report (CAFR) used to comply with paragraph f.(2) of this section or certification that the requirements of General Accounting Standards Board Statement 18 have been met.

(b) The items required in paragraph f.(3)(a) of this section must be placed in the facility operating record as follows:

(i) In the case of closure and post-closure care, either before the effective date of this section, which is April 9, 1997, or prior to the initial receipt of waste at the facility, whichever is later, or

(ii) In the case of corrective action, not later than 120 days after the corrective action remedy is approved by the Department.

(c) After the initial placement of the items in the facility's operating record, the local government owner or operator must update the information and place the updated information in the operating record within 180 days following the close of the owner or operator's fiscal year.

(d) The local government owner or operator is no longer required to meet the requirements of paragraph f.(3) of this section when:

(i) The owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The owner or operator is released from the requirements of this section in accordance with sections 16.71.b., 16.72.b., or 16.73.b.

(e) A local government must satisfy the requirements of the financial test at the close of each fiscal year. If the local government owner or operator no longer meets the requirements of the local government financial test it must, within two hundred ten (210) days following the close of the owner or operator's fiscal year, obtain alternative financial assurance that meets the requirements of this section, place the required submissions for that assurance in the operating record, and notify the Department that the owner or operator no longer meets the criteria of the financial test and that alternate assurance has been obtained.

(f) The Department, based on a reasonable belief that the local government owner or operator may no longer meet the requirements of the local government financial test, may require additional reports of financial condition from the local government at any time. If the Department finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of the local government financial test, the local government must provide alternate financial assurance in accordance with this section.

(4) Calculation of Costs to be Assured. The portion of the closure, post-closure, and corrective action costs for which an owner or operator can assure under this paragraph is determined as follows:

(a) If the local government owner or operator does not assure other environmental obligations through a financial test, it may assure closure, post-closure, and corrective action costs that equal up to 43 percent of the local government's total annual revenue.

(b) If the local government assures other environmental obligations through a financial test, including those associated with UIC facilities under 40 CFR 144.62, petroleum underground storage tank facilities under 40 CFR Part 280, PCB storage facilities under 40 CFR Part 761, and hazardous waste treatment, storage, and disposal facilities under 40 CFR Parts 264 and 265, it must add those costs to the closure, post-closure, and corrective action costs it seeks to assure under this paragraph. The total that may be assured must not exceed forty three (43) percent of the local government's total annual revenue.

(c) The owner or operator must obtain an alternate financial assurance instrument for those costs that exceed the limits set in paragraphs f.(4) (a) and (b) of this section.

g. Corporate Guarantee.

[Reserved]

h. Local Government Guarantee. An owner or operator may demonstrate financial assurance for

closure, post-closure, and corrective action, as required by Sections 16.71, 16.72, and 16.73, by obtaining a written guarantee provided by a local government. The guarantor must meet the requirements of the local government financial test in paragraph f. of this section, and must comply with the terms of a written guarantee.

(1) Terms of the written guarantee. The guarantee must be effective before the initial receipt of waste or before the effective date of this section, whichever is later, in the case of closure, post-closure care, or no later than one hundred twenty (120) days after the corrective action remedy has been approved by the Department. The guarantee must provide that:

(a) If the owner or operator fails to perform closure, post-closure care, and/or corrective action of a facility covered by the guarantee, the guarantor will:

(i) Perform, or pay a third party to perform, closure, post-closure care, and/or corrective action as required; or

(ii) Establish a fully funded trust fund as specified in paragraph (a) of this section in the name of the owner or operator.

(b) The guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Department. Cancellation may not occur, however, during the one hundred twenty (120) days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Department, as evidenced by the return receipts.

(c) If a guarantee is canceled, the owner or operator must, within ninety (90) days following receipt of the cancellation notice by the owner or operator and the Department, obtain alternate financial assurance, place evidence of that alternate financial assurance in the facility operating record, and notify the Department. If the owner or operator fails to provide alternate financial assurance within the ninety (90) day period, the guarantor must provide that alternate assurance within one hundred twenty (120) days following the guarantor's notice of cancellation, place evidence of the alternate assurance in the facility operating record, and notify the Department.

(2) Recordkeeping and reporting.

(a) The owner or operator must place a certified copy of the guarantee along with the items required under paragraph f.(3) of this section into the facility's operating record before the initial receipt of waste or before the effective date of this section, whichever is later, in the case of closure, post-closure care, or no later than one hundred twenty (120) days after the corrective action remedy has been approved by the Department.

(b) The owner or operator is no longer required to maintain the items specified in paragraph h.(2) of this section when:

(i) The owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The owner or operator is released from the requirements of this section in accordance with sections 16.71.b., 16.72.b., or 16.73.b.

(c) If a local government guarantor no longer meets the requirements of paragraph (f) of this section, the owner or operator must, within ninety (90) days, obtain alternative assurance, place evidence of the alternate assurance in the facility operating record, and notify the Department. If the owner or operator fails to obtain alternate financial assurance within that ninety (90) day period, the guarantor must provide that alternate assurance within the next thirty (30) days.

i. State Approved Mechanism. An owner or operator may satisfy the requirements of this section by obtaining any other mechanism that meets the criteria specified in section 16.74.l., and that is approved by the Department.

j. State Assumption of Responsibility. If the State Director either assumes legal responsibility for an owner or operator's compliance with the closure, post-closure care and/or corrective action requirements of this part, or assures that the funds will be available from State sources to cover the requirements, the owner or operator will be in compliance with the requirements of this section. Any State assumption of responsibility must meet the criteria specified in section 16.74.l.

k. Use of Multiple Financial Mechanisms. An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility or for multiple facilities. The mechanisms must be as specified in paragraphs a., b., c., d., e., f., g., h., i. and j. of this section, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current cost estimate for closure, post-closure care or corrective action, whichever is applicable. The financial test and a guarantee provided by a corporate parent, sibling, or grandparent may not be combined if the financial statements of the two firms are consolidated.

l. The language of the mechanisms listed in paragraphs a., b., c., d., e., f., g., h., i. and j. of this section must ensure that the instruments satisfy the following criteria:

(1) The financial assurance mechanisms must ensure that the amount of funds assured is sufficient to cover the costs of closure, post-closure care, and corrective action for known releases when needed;

(2) The financial assurance mechanisms must ensure that funds will be available in a timely fashion when needed;

(3) The financial assurance mechanisms must be obtained by the owner or operator by the effective date of these requirements or prior to the initial receipt of industrial solid waste, whichever is later, in the case of closure and post-closure care, until the owner or operator is released from the financial assurance requirements under sections 16.71. and 16.72.

(4) The financial assurance mechanisms must be legally valid, binding, and enforceable under State and Federal law.

16.75. DISCOUNTING

a. The Department may allow discounting of closure cost estimates in section 16.71.a., post-closure cost estimates in section 16.72.a., and/or corrective action cost estimates in section 16.73.a. up to the rate of return for essentially risk free investments, net of inflation, under the following conditions:

(1) The Department determines that the cost estimates are complete and accurate and the owner or operator has submitted a statement from a Registered Professional Engineer so stating;

(2) The Department finds the facility in compliance with applicable and appropriate permit conditions;

(3) The Department determines that the closure date is certain and the owner or operator certifies that there are no foreseeable factors that will change the estimate of site life; and

(4) Discounted cost estimates must be adjusted annually to reflect inflation and years of remaining life.

b. [Reserved]

16.76 - 16.79 [Reserved]

SUBPART H

16.80. PERMIT APPLICATION REQUIREMENTS

a. Applications for a permit to construct and operate a new ISWLF shall contain at a minimum the following:

(1) A Landfill Location Restriction Study as outlined in section 16.81.

(2) A Disclosure Statement for commercial ISWLFs.

(3) A document demonstrating compliance with applicable Solid Waste Management Plans for commercial ISWLFs.

b. Upon receipt of written notice from the Department to the applicant that the issues contained in section 16.80.a. have been satisfactorily addressed, and the site is determined to be suitable for the intended purpose, the following information shall be submitted by, signed, and stamped by a professional engineer duly licensed to practice in the State of South Carolina. All individual drawings and plans shall be signed and stamped separately by the professional engineer.

(1) A completed Permit Application Form.

(2) Engineering Drawings that set forth the proposed landfill location, property boundaries, adjacent land uses and construction details.

(3) Operation Plans that describe how the landfill will fulfill the requirements of protecting human health and the environment.

(4) A Landscape Plan prepared to address adequate seeding or screening of the site.

(5) An Engineering Report comprehensively describing the existing site conditions and an analysis of the landfill, including closure and post-closure criteria.

(6) A Quality Assurance/Quality Control Report prepared in accordance with all standardly accepted QA/QC practices.

(7) An Operation and Maintenance Report prepared to demonstrate how the landfill will meet all the operational requirements.

(8) A Contingency Plan.

(9) A Groundwater Monitoring Plan.

(10) A Closure Plan.

(11) A Post-Closure Care Plan.

16.81. LANDFILL LOCATION RESTRICTION STUDY

a. The landfill location restriction study for a new Class 1 ISWLF which disposes of only those wastes listed in Appendix 1, or other approved wastes, shall ensure that the proposed landfill location complies with section 16.11., section 16.12., and applicable portions of section 16.18. of this regulation.

b. All other new Class 1, Class 2, and Class 3 ISWLF applications shall contain a landfill location restriction study, which shall include at a minimum, a discussion of compliance with sections 16.11., 16.12., 16.13., 16.14., 16.15., and applicable portions of section 16.18. The study shall be used to eliminate those sites which, due to location restrictions, are unsuitable sites and to determine if site conditions warrant further permitting activities.

16.82. DISCLOSURE STATEMENT

a. Upon notification of the Department of the intent to site a commercial ISWLF, the applicant shall submit a disclosure statement as outlined in the Solid Waste Policy and Management Act, S.C. Code Ann. (1976 Code as amended) section 44-96-300. The Department may accept one disclosure statement for multiple facility permit applicants. This section shall not apply if the applicant is a local government or a region comprised of local governments. The disclosure statement shall contain the following information with regard to the applicant and his responsible parties:

(1) The full name, business address, and social security number of all responsible parties;

(2) A description of the experience and credentials, including any past or present permits or

licenses for the collection, transportation, treatment, storage, or disposal of industrial solid waste issued to or held by the applicant within the past five (5) years;

(3) A listing and explanation of all convictions by final judgement of a responsible party in a state or federal court, whether under appeal or not, of a crime of moral turpitude punishable by a fine of five thousand dollars (\$5,000.00) or more or imprisonment for one year or more, or both, within five (5) years immediately preceding the date of the submission of the permit application.

(4) A listing and explanation of all convictions by final judgement of a responsible party in a state or federal court, whether under appeal or not, of a criminal or civil offense involving a violation of an environmental law punishable by a fine of five thousand dollars (\$5,000.00) or more or imprisonment for one year or more, or both, in a state or federal court within five (5) years of the date of submission of the permit application;

(5) A listing and explanation of the instances in which a disposal facility permit held by the applicant was revoked by final judgement in a state or federal court, whether under appeal or not, within five (5) years of the date of submission of the permit application; and

(6) A listing and explanation of all adjudications of the applicant for having been in contempt of any valid court order enforcing any federal environmental law or any state environmental law relative to the activity for which the permit is being sought, within five (5) years of the date of submission of the permit application.

16.83. COMPLIANCE WITH SOLID WASTE MANAGEMENT PLANS

a. The permit applicant for a commercial ISWLF shall demonstrate compliance with the State Solid Waste Management Plan in effect at the time of submittal of the demonstration to the Department.

b. The permit applicant for a commercial ISWLF shall demonstrate compliance with the County or Regional Solid Waste Management Plan in effect at the time of submittal of the demonstration to the Department.

c. All landfills shall adhere to all Federal and State rules and regulations, and all local zoning, land use and other applicable local ordinances.

16.84. PERMIT APPLICATION FORM

a. The permit applicant shall submit a completed permit application, on a form provided by the Department, as a part of the permit application requirements specified in section 16.80. The permit application form may not require any information not specifically required by these regulations.

16.85. [Reserved]

16.86. ENGINEERING DRAWINGS

a. All applications for new ISWLF facilities shall contain engineering drawings consisting of the

following:

(1) A vicinity plan or map that must show the area within one mile of the property boundaries of the landfill in terms of: the existing and proposed zoning and land uses within that area at the time of permit application; and residences, public and private water supply wells, known aquifers, and surface waters (with quality classifications), access roads, bridges, railroads, airports, historic sites, and other existing and proposed man-made or natural features relating to the facility. The drawings must be to scale.

(2) Site plans that must show: the landfill's property boundaries, as certified by an individual licensed to practice land surveying in the State of South Carolina, off-site and on-site utilities (such as, electric, gas, water, storm, and sanitary sewer systems) and right-of-ways, easements; the names and addresses of abutting property owners; the location of soil borings, excavations, test pits, gas venting structures, wells, piezometers, environmental and facility monitoring points and devices, (with each identified with a permanent marking system, and horizontal and vertical location shown, as measured from the ground surface and top of well casing), benchmarks and permanent survey markers, and on-site buildings and appurtenances, fences, gates, roads, parking areas, drainage culverts, and signs; the delineation of the total landfill area including planned staged development of the landfill's construction and operation, and the lateral limits of any previously filled areas; the location and identification of the sources of cover materials; the location and identification of special waste handling areas; and site topography with five (5) feet minimum contour intervals, and any other relevant information as necessary for proper operation. The site plan drawings must show wetlands, property lines, existing wells, water bodies, residences, schools, or any building on adjoining property.

(3) Detailed plans of the landfill must clearly show in plan and cross sectional views the following: the original, undeveloped site topography before excavation or placement of industrial solid waste; the existing site topography, if different, including the location and approximate thickness and nature of any existing industrial solid waste; the high groundwater table; the proposed limits of excavation and waste placement; other devices as needed to divert or collect surface water run-on or run-off; the final elevations and grades of the landfill; groundwater monitoring; sedimentation ponds and any treatment, pre-treatment, or storage facilities; roadway sections, dimensions, slopes and profile; the building locations and appurtenances.

b. Applications for new Class 2 and Class 3 ISWLFs shall also show the location and placement of each liner system and of each leachate collection system; location and showing of all critical grades and elevations of the collection pipe inverts and drainage envelopes, manholes, cleanouts, valves, and sumps; leachate storage, treatment and disposal systems including the collection network and any treatment, pre-treatment or storage facilities.

16.87. OPERATIONAL PLAN

a. The operational plan shall be presented in a manner sufficiently clear and comprehensive for use by the landfill's operator during the life of the landfill; and depict in plan and cross-sectional views the fill progression with respect to site life; and contain:

(1) A description of the site's preparation and fill progression for the life of the site in terms of method, depth, location and sequence.

(2) A method of elevation control for the operator including the location and description of the permanent surveying benchmark at the site; and

(3) A fill progression discussion describing the placement and compacted thickness of daily, intermediate and final cover.

b. [Reserved]

16.88. LANDSCAPE PLAN

a. The landscape plan must:

(1) Identify and locate existing vegetation to be retained and proposed vegetation to be used for cover, screening, and other purposes;

(2) Provide a seeding and planting schedule, including the identification of the rationale for the seed mixture choice and fertilization and procedures for seed application, mulching, and maintenance; and,

(3) Describe the planting plan and schedule which identifies plants to be used consistent with future use proposals.

b. [Reserved]

16.89. ENGINEERING REPORT

a. An engineering report containing a description of the existing site conditions and an analysis of the proposed landfill must be submitted. The report shall:

(1) Specify the filling rate (in tons per day) of the landfill for which approval is being sought, describing the number, types, and specifications of all necessary machinery and equipment needed to effectively operate the landfill at the prescribed filling rate;

(2) Contain a detailed description of all construction phases, including, but not limited to, the liner system, leachate collection system, and final cover system, and;

(3) Contain a site analysis of the proposed action including:

(a) The location of the closest population centers;

(b) A description of the primary transportation systems and routes of waste being transported to the landfill (ie., highways, airports, railways, etc.);

(c) An analysis of the existing topography, surface water and subsurface geological conditions;

(d) A description of the contingency plan for the construction phase that must describe

procedures for responding to construction deficiencies resulting from circumstances including, but not limited to, inclement weather, defective materials or construction inconsistent with specifications as demonstrated by quality control testing. The plan must provide a description of the criteria to be utilized in evaluating deficiencies, and selecting and implementing corrective actions;

(4) Discuss the closure and post-closure maintenance and operation of the landfill which must include, but not be limited to:

(a) A closure design consistent with the requirements contained in this regulation.

(b) A post closure environmental quality monitoring program consistent with requirements contained in this regulation.

(c) An operation and closure plan for the leachate collection, treatment, and storage facilities consistent with the requirements of this regulation (Class 2 and Class 3 ISWLFs).

(d) A discussion of the future use of the site including the specific proposed or alternative uses. Future uses must conform to the landscape plan, required by this regulation and must not adversely affect the final cover system;

(5) Include appendices demonstrating compliance with pertinent local laws and regulation pertaining to air, land, noise, and water pollution, and other supporting data, including literature citations.

b. The engineering report for new Class 1, Class 2, and Class 3 ISWLFs shall also include the following:

(1) A description of the materials and construction methods for the placement of: each monitoring well, all gas venting systems, each liner and leachate collection and removal system, leachate storage, treatment, and disposal systems, and cover systems. This description also must include a discussion of provisions to be taken to prevent frost action upon each liner system in areas where refuse has not been placed;

(2) An estimate of the expected quantity of leachate to be generated, including:

(a) An annual water budget, estimating leachate generation quantities must be prepared for periods of time of initial operation and application of intermediate cover and following facility closure. At a minimum, the following factors must be considered in the preparation of the precipitation infiltration into the landfill: average monthly temperature, average monthly precipitation, evaporation, evapotranspiration which should consider the vegetation type and root zone depth, surface/cover soil conditions and their relation to precipitation runoff which must account for the surface conditions and soil moisture holding capacity and all other sources of moisture contribution to the landfill;

(b) Liner and leachate collection system efficiencies must be calculated using an appropriate analytical or numerical assessment. The factors to be considered in the calculation of collection system efficiency must include, as a minimum, the saturated hydraulic conductivity of the liner, the liner thickness, the saturated hydraulic conductivity of the leachate collection system, the leachate collection system

porosity, the base slope of the liner and leachate collection and removal system interface, the maximum flow distance across the liner and leachate collection and removal system interface to the nearest leachate collection pipe, the estimated leachate generation quantity as computed in accordance with the requirements of the preceding subparagraph; and

(c) Information gained from the collection efficiency calculations required in the preceding two subparagraphs must be used to predict the static head of leachate on the liners, volume of leachate to be collected, and the volume of leachate that may permeate through the entire liner system on a monthly basis. This assessment must also address the amount of leachate expected to be found in the leachate collection and removal system in gallons per acre per day;

(3) The design of the leachate storage facility must be based upon the leachate generation calculation. The design capacity for the leachate storage facility must be based on the proposed leachate disposal method which must allow sufficient lead time for either:

(a) Development of a separate set of engineering reports, plans and specifications for the construction and operation of a leachate treatment facility on-site and to obtain approval of this document before any discharge from the leachate storage facility; or

(b) Development of a plan to handle leachate destined for off-site treatment at a wastewater treatment facility, including a legal document (contract, local permit, etc.) certifying acceptance of leachate from the operator of the wastewater treatment facility with all conditions stipulated by the operator of the wastewater treatment facility and all such stipulations addressed in the operations plan, and to ensure that the amount of leachate stored on-site is not in excess of the storage capacity available.

16.90. QUALITY ASSURANCE/QUALITY CONTROL REPORT

a. The Quality Assurance (QA) and Quality Control (QC) report shall address the construction requirements set forth in this document for each phase of construction, this plan must include, but not be limited to:

(1) A delineation of the QA and QC management organization, including the chain of command of the QA and QC inspectors and contractors;

(2) A description of the required level of experience and training for the contractor, his crew, and QA/QC inspectors for every major phase of construction in sufficient detail to demonstrate that the installation methods and procedures required in this document will be properly implemented; and

(3) A description of the QA and QC testing protocols for every major phase of construction, and final cover installation.

b. The QA/QC report for new Class 2 and Class 3 ISWLFs shall also include, but is not limited to, QA/QC protocols for: the base liner system and leachate collection system, which must include at a minimum: the frequency of inspection, field testing, sampling for laboratory testing, the sampling and field testing procedures and equipment to be utilized, the calibration of field testing equipment, the frequency of performance audits, the sampling size, the soils or geotechnical laboratory to be used, the laboratory

procedures to be utilized, the calibration of laboratory equipment and QA/QC of laboratory procedures, the limits for test failure and a description of the corrective procedures to be used upon test failure.

16.91. OPERATION AND MAINTENANCE REPORT

a. The operation and maintenance report must include, at a minimum, the following:

(1) A description of the personnel requirements, stating personnel responsibilities and duties including discussions for training and lines of authority at the landfill;

(2) A description of all machinery and equipment to be used at the landfill, their authorized uses, and safety features;

(3) A description of the operational controls, including but not limited to signs, hours and days of operation, landfill usage rules and regulations, and traffic flow controls;

(4) A characterization of the anticipated amount of industrial solid waste to be received per day, specifying the quantities received in tons per day, the fill progression of the landfill, and the method of industrial solid waste placement and compaction, and the anticipated in-place density;

(5) A description of the industrial solid waste receiving process for all industrial solid waste, including inspection of incoming loads, identification of any waste streams to be excluded, and those wastes to receive special handling, or to require treatment before receipt;

(6) A description of the cover material management plan, specifying the types of cover material (daily, intermediate, and final) identifying the quantities required and sources for each cover material by type including the method of cover material placement, compaction, and the anticipated density;

(7) A description of the gas monitoring program that must discuss explosive gas generation at the landfill and the controls used to ensure that gas generated at the landfill will not create a hazard to health, safety, or property;

(8) A description of how winter and inclement weather operations will be conducted; and

(9) If applicable, a description of the operation of a convenience station at the landfill for smaller private vehicles to unload refuse at an area other than the landfill's working face.

b. Non-applicable portions of this section may be excluded, provided the applicant can demonstrate appropriate justification that the requirement is unnecessary.

16.92. CONTINGENCY PLAN

a. The contingency plan must discuss an organized, planned and coordinated course of action that is both technically and financially feasible, to be taken in responding to contingencies during the construction and/or operation of a landfill. The plan must address, at a minimum, actions to be taken with respect to personnel and user safety; on-site personal injury; fires; explosive landfill gases detected on site; dust;

litter; odor; noise; equipment breakdown; unusual traffic conditions; vectors; disposition of unapproved wastes; receipt of unauthorized wastes; releases of hazardous or toxic materials; groundwater and surface water contamination which may include public water supply contamination as a result of an accidental spill.

b. Contingency plans for new Class 2 and Class 3 ISWLFs shall also discuss the occurrence of the leachate storage facility being at or above capacity. The contingency plan must specify the procedures to be used in response to: tank and surface impoundment spills or leakage, including removal of the waste and repair of such structures, and the event that the approved leachate treatment facility cannot accept leachate from the landfill for an indefinite period of time.

c. Non-applicable portions of this section may be excluded, provided the applicant can demonstrate appropriate justification that the requirement is unnecessary.

16.93. GROUNDWATER MONITORING PLAN

a. Upon obtaining approval of the investigations performed to satisfy section 16.81., a groundwater monitoring plan shall be submitted to the Department for review and approval. The groundwater monitoring plan shall detail the activities to be performed to ensure compliance the requirements of subpart E.

b. [Reserved]

16.94. CLOSURE PLAN

a. A closure plan shall be included in the permit application that details the activities that will be performed to satisfy the requirements of section 16.60.

b. [Reserved]

16.95. POST-CLOSURE CARE PLAN

a. A post-closure care plan shall be included in the permit application that details the activities that will be performed to satisfy the requirements of section 16.61.

b. [Reserved]

16.96. - 16.99. [Reserved]

SUBPART I

16.100. TONNAGE LIMITS

a. The Department shall, prior to issuance of a permit for a new or expanded industrial solid waste facility, approve an allowable rate of disposal based on the facilities design capacity and expected operational life. Any landfill permit issued to a facility shall include an allowable rate of disposal on a tons

per year basis.

b. [Reserved]

16.101. - 16.109. [Reserved]

SUBPART J

16.110. PERMIT CONDITIONS AND PERMIT REVIEW

a. Applications for permits shall be submitted with sufficient detail to support a judgement that operation of the disposal system will not violate the Acts or regulations of the State of South Carolina. The application shall be signed by the owner and operator of the ISWLF. The approved application and associated plans and drawings shall be an enforceable part of the permit.

b. The Department shall review the permit for each ISWLF at least once every five (5) years, unless otherwise specified by the Department.

(1) If, upon review, the Department finds that material or substantial violations of the permit demonstrate the permittee's disregard for, or inability to comply with applicable laws, regulations, or requirements and would make continuation of this permit not in the best interests of human health and safety or the environment, the Department may, after a hearing, amend or revoke the permit, as appropriate and necessary. When a permit is reviewed, the Department shall include additional limitations, standards, or conditions when the technical limitations, standards, or regulations on which the original permit was based have been changed by statute or amended by regulation.

(2) The Department may amend or attach conditions to a permit when:

(a) There is a significant change in the manner and scope of operation which may require new or additional permit conditions or safeguards to protect human health and safety and the environment;

(b) The investigation has shown the need for additional equipment, construction, procedures, and testing to ensure the protection of human health and safety and the environment; and,

(c) The amendment is necessary to meet changes in applicable regulatory requirements.

c. Any permits issued pursuant to this regulation will not be valid after a period of twelve (12) months of the date of issuance if construction of the facility has not begun by the end of this period.

16.111. - 16.119. [Reserved]

SUBPART K

16.120. TRANSFER OF OWNERSHIP

a. The Department may, upon written request, transfer a permit to a new owner or operator where

no other change in the permit is necessary. The proposed new owner of a permitted ISWLF shall, at least forty-five (45) days prior to the scheduled change in ownership, provide:

- (1) Documentation of the new owner's name and address.
 - (2) Documentation of the name and address of the party responsible for the operation and maintenance of the ISWLF, if different from the owner.
 - (3) A written agreement signed by both parties indicating the intent to change ownership or operating responsibility of the facility. The agreement must contain a specific date for the transfer of permit responsibility.
 - (4) Documentation indicating that the ISWLF will be operated in accordance with the existing permit in effect at the time of transfer.
 - (5) [Reserved]
 - (6) A Disclosure Statement as required by Regulation 61-107.16., Subpart H.
- b. Upon approval of all items required by section 16.120.a., the Department shall transfer the permit from the original owner of the ISWLF, to the new owner.
 - c. A request for a permit modification must be submitted with the transfer of ownership request, if the ISWLF will not be operated in accordance with the approved plans. The permit modification must be in accordance with all provisions of this regulation.
 - d. The new owner must submit legal documentation of the transfer of ownership of the ISWLF within fifteen (15) days of the actual transfer.

16.121. - 16.129. [Reserved]

SUBPART L

16.130. VIOLATIONS AND PENALTIES

a. A violation of this regulation subjects the owner of the industrial solid waste landfill to the issuance of a Department order, or to a civil or criminal enforcement action by the Attorney General's office. In addition, the Department may impose reasonable civil penalties not to exceed ten thousand dollars (\$10,000.00) for each day of violation of the provisions of this regulation, including any order, permit or standard. After exhaustion of administrative remedies, a person against whom a civil penalty is evoked by the Department may appeal the decision of the Department or Board to the court of common pleas.

b. [Reserved]

16.131. - 16.139. [Reserved]

SUBPART M

16.140. SEVERABILITY

a. Should any section, paragraph, sentence, clause or phrase of this regulation be declared unconstitutional or invalid for any reason, the remainder of this regulation shall not be affected thereby.

b. [Reserved]

16.141. - 16.149. [Reserved]

SUBPART N

16.150. APPEALS

a. An Appeal from denial of a permit shall be deemed a "contested case" as defined in S.C. Code Ann. 1-23-310 (2).

b. [Reserved]

16.151. - 16.159. [Reserved]

SUBPART O

16.160. VARIANCES

a. Any request for variances to these rules and regulations must be directed in writing to, and will be considered by the Department on an individual basis.

b. [Reserved]

16.161 - 16.169. [Reserved]

APPENDIX 1

Any of the materials listed in this appendix that have been painted with lead-based paint and/or have been in direct contact with hazardous constituents, e.g., petroleum products, pesticides, etc. are prohibited from disposal at a Class 1 Industrial Solid Waste Landfill.

Earthen material, e.g., clays, sands, gravels, and silts

Top soil

Logs

Vegetation

Tree Stumps

Rock

Root Mats

Brush and limbs

Structural steel

Hardened Concrete

Bricks and blocks

Lumber

Plaster and plasterboard

Insulation material

Shingles and roofing materials

Floor, wall, and ceiling tile

Hardened / cured asphalt (1)

Hardened cement

Pipes

Glass wire (optical fiber)

Floor coverings

Wall coverings

Tires (2)

Poly fiberglass (cured)

Fiberglass (cloth, matting, roving, etc.)

Glass

Mirrors

Nonfriable asbestos containing material (3)

(1) Tar sealant material is not acceptable

(2) Tires shall be reduced in size by a minimum of one eighth the size of the original tire prior to landfill disposal.

(3) Nonfriable asbestos-containing material which is in good condition and has not been handled in such a way as to render it a regulated material and thus subject to South Carolina DHEC R. 61-86.1, Standards of Performance for Asbestos Abatement Operations and the National Emissions Standards for Hazardous Air Pollutants [40 CFR 61 Subpart M]. Prior to disposal of any asbestos containing material, the generator of the asbestos waste shall have a "permission for disposal" letter from the Department's Bureau of Air Quality Control.

R.61-107.17 Solid Waste Management: Demonstration-of-Need

A. Applicability.

1. This regulation establishes the criteria for the demonstration-of-need for the construction of new and the expansion of existing municipal solid waste landfills, municipal solid waste incinerators, industrial incinerators, Part IV (long-term) construction, demolition, and land-clearing debris landfills, and industrial landfills. Solid waste disposal facilities that have stopped accepting waste prior to the effective date of this regulation shall be considered new facilities and required to demonstrate need pursuant to this regulation.

2. This regulation does not apply to inert or cellulosic solid waste facilities or to industrial facilities managing solid waste generated in the course of normal operations on property under the same ownership or control as the solid waste management facility if the facility is not a commercial solid waste management facility.

3. This regulation does not apply to facilities that handle hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) and R.61-79, Hazardous Waste Management Regulations, and infectious waste as defined by R.61-105, Infectious Waste Management Regulations.

B. Definitions

1. "Commercial solid waste disposal facility" means a publicly or privately owned solid waste disposal facility which accepts solid waste from outside the county or region in which the facility is located.

2. "County or regional Solid Waste Management Plan" - means a solid waste management plan prepared, approved, and submitted by either a single county or a region, i.e., a group of counties, pursuant to the Solid Waste Policy and Management Act, S.C. Code Ann. Section 44-96-80 (1976 Code as amended.)

3. "Department" means the South Carolina Department of Health and Environmental Control.

4. "Disposal Rate" means the total volume or rate of disposal at the solid waste disposal facility on a fiscal year basis.

5. "Expand" or "Expansion" means any increase in the permitted capacity of a solid waste disposal facility, or any increase in the total volume or annual permitted rate of disposal at a solid waste disposal facility.

6. "Planning area" means the area around a solid waste disposal facility as defined below which is used for determining the need for new disposal facilities and expansions of existing disposal facilities.

a. The following planning areas shall be used by the Department for determining need for commercial facilities:

Commercial Solid Waste
Disposal Facility

Size of Planning Area Around
Landfill/Incinerator

Municipal Solid Waste Landfill	75-mile radius
Industrial Landfill	75-mile radius
Municipal Solid Waste Incinerator	75-mile radius
Industrial Incinerator	75-mile radius
Part IV Construction Demolition and Land-clearing debris Landfill	10-mile radius

b. The planning area for an existing county or region owned facility that only accepts waste generated within its boundaries shall be limited to the county or region in which the facility is located. The local solid waste management plan will identify a facility as being a county facility or a regional facility. Any new county or region owned facility that is proposing to accept only waste generated within its boundaries shall be subject to the planning area in Section B.6.a.

7. "Region" means a group of counties which is planning to or has prepared, approved, and submitted a regional solid waste management plan to the Department pursuant to S.C. Code Ann. Section 44-96-80.

8. "Solid Waste" means any garbage, refuse, or sludge from a waste treatment plant, water supply plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining and agricultural operations, and from community activities. This term does not include solid or dissolved material in domestic sewage, recovered materials, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to NPDES permits under the Federal Water Pollution Control Act, as amended, or the Pollution Control Act of South Carolina, as amended, or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1964, as amended. Also excluded from this definition are application of fertilizer and animal manure during normal agricultural operations or refuse as defined and regulated pursuant to the South Carolina Mining Act, including processed mineral waste, which will not have a significant adverse impact on the environment.

9. "Solid Waste Disposal Facilities" means municipal solid waste landfills, municipal solid waste incinerators, industrial incinerators, Part IV (long-term) construction, demolition, and land-clearing debris landfills, and/or industrial landfills.

10. "State Solid Waste Management Plan" means the plan which the Department of Health and Environmental Control is required to submit to the General Assembly and to the Governor pursuant to S.C. Code Ann. Section 44-96-60.

C. Demonstration-of-Need Requirements for Solid Waste Disposal Facilities.

1. No permit to construct a new solid waste disposal facility or to expand an existing solid waste disposal facility shall be issued until a demonstration-of-need is approved by the Department, provided, however, that any increase in the disposal rate shall not require a demonstration-of-need as long as such disposal rate is less than the maximum disposal rate as determined in paragraph D.3.b. below.

2. Construction of new or expansion of existing solid waste disposal facilities may not be commenced until all permits required for construction have been issued.

3. Need shall be demonstrated for the following types of solid waste disposal facilities:

- a. Municipal Solid Waste Landfills;
- b. Part IV (long-term) Construction, Demolition, and Land-Clearing Debris Landfills;
- c. Industrial Landfills;
- d. Municipal Solid Waste Incinerators; and,
- e. Industrial Solid Waste Incinerators.

4. The initial demonstration-of-need for a new or expanded solid waste disposal facilities shall be made by the Department prior to a consistency determination.

5. In determining whether there is a need for new solid waste disposal facilities or expansion of

existing solid waste disposal facilities, the Department shall not consider solid waste generated in jurisdictions not subject to the provisions of a county or regional solid waste management plan pursuant to S.C. Code Ann. 44-96-80.

D. Determining Need.

1. For all new proposed solid waste disposal facilities and all proposed expansions of existing solid waste disposal facilities, the applicant shall submit the following information to the Department:

- a. The longitude and latitude coordinates for the site of the proposed new facility or proposed expansion; and,
- b. The proposed disposal rate for the proposed new facility, or for the proposed expansion of the existing facility.

2. The Department will conduct a review of permitted disposal rates at existing solid waste disposal facilities within the planning area of any new proposed solid waste disposal facilities and any proposed expansions of existing solid waste disposal facilities, based upon information contained in the applicable county or regional solid waste management plan and the State Solid Waste Management Plan for the proposed new solid waste disposal facility/expansion.

3. In determining if there is a need for a new or expansion of an existing solid waste disposal facility, the Department will use the criteria outlined below:

- a. Where there are at least two (2) commercial disposal facilities under separate ownership within the planning area that meet the disposal needs for the area, e.g., that accept special waste and, if applicable, are capable of handling additional tonnage, no new disposal capacity will be allowed. Disposal facilities that accept only waste generated in the county or region in which the disposal facility is located will not be considered in determining need.

- b. Each disposal facility in the planning area will be allowed up to a maximum yearly disposal rate equal to the total amount of solid waste destined for disposal that is generated in the county or counties that fall, either all inclusive or a portion thereof, within the planning area. Disposal rates for existing facilities shall not be reduced pursuant to this provision.

- c. In determining the amount of solid waste destined for disposal, the Department will use figures in the current Solid Waste Annual Report for the proposed waste stream, e.g., the generation rate for a Part IV construction, demolition debris and land-clearing debris landfill will be determined by adding the amounts of construction and demolition debris, and land-clearing debris destined for disposal in permitted construction, demolition, and land-clearing debris landfills in the counties that fall within the planning area.

- d. The Department reserves the right to review additional factors in determining need on a case-by-case basis.

4. Variance.

a. In regards to demonstration-of-need, any solid waste disposal facility existing on the effective date of this regulation that exhausts its capacity, shall be allowed to either construct a new solid waste disposal facility at its permitted annual rate of disposal as a replacement, or expand the volume of the existing solid waste disposal facility. The planning area shall be determined based on the location of the expansion or replacement facility. This variance applies to all solid waste disposal facilities, including solid waste disposal facilities that accept only waste generated in the county or region in which the facility is located.

b. A solid waste disposal facility shall apply to the Department for a variance to either replace the solid waste disposal facility or to expand the volume of the existing solid waste disposal facility at least five (5) years before exhausting its permitted capacity or the operational life of the facility.

5. The Department will advise the applicant and the host county or region in writing of its demonstration-of-need determination.

E. Violations and Penalties. A violation of this regulation or any permit, order, or standard subjects the person to the issuance of a Department order or a civil enforcement action in accordance with S.C. Code Ann. Section 44-96-450. Willful violation of this regulation or any permit, order, or standard subjects the person to the issuance of a Department order or to criminal enforcement action in accordance with S.C. Code Ann. Section 44-96-450. Any person to whom an order is issued may appeal it as a contested case pursuant to any applicable provision of R.61-72, Procedures for Contested Cases, and the S.C. Administrative Procedures Act, S.C. Code Ann. Section 1-23-310 et seq.

F. Severability. Should any section, paragraph, sentence, word, clause or phrase of this regulation be declared unconstitutional or invalid for any reason, the remainder of this regulation shall not be affected thereby.

R.61-107.18 Solid Waste Management: Off-site Treatment of Contaminated Soil

A. Applicability.

1. This regulation establishes minimum standards for the procedures, documentation, and other requirements which must be met for the proper site selection, design, operation, and closure of facilities treating contaminated soil and soil-like materials, here in after referred to as soil, which is not hazardous waste as defined by Resource Conservation and Recovery Act (RCRA), Public Law 94-580, and R.61-79, Hazardous Waste Management Regulations promulgated pursuant to the South Carolina Hazardous Waste Management Act, (SCHWMA), as amended, S.C. Code Ann. Section 44-56-10 et seq., and that has been excavated and is being treated off-site. Off-site treatment processes include, but are not limited to: biological, low-temperature thermal desorption, composting, prepared beds, bioreactors, soil slurry reactors, chemical oxidation, soil washing, incineration, and biopile technology. Other Department or other agency laws and regulations may apply to the treatment or handling of soil not addressed in this regulation and to other entities who might handle the soil before or after treatment.

2. This regulation is not applicable to on-site treatment of contaminated soil of any kind.

3. A research, development, and demonstration (RD&D) permit, pursuant to R. 61-107.10, Solid Waste Management: Research, Development, and Demonstration Permit Criteria, may be required for the treatment of soil based on the contaminant and the proposed treatment technology, and at the discretion of the Department.

B. Definitions As Used In This Regulation.

1. "Aerobic" means able to live, grow, or take place only when free oxygen is present.
2. "Biological treatment" means the degradation of contaminants of concern in soil by increasing the microbial activity through the aeration and/or addition of minerals, nutrients, and/or moisture.
3. "Biopile technology" means heaping contaminated soil into piles (or cells) and stimulating microbial activity within the soil through aeration and/or addition of minerals, nutrients, and/or moisture.
4. "Bioreactor" means a contained vessel in which biological treatment takes place, e.g., fermentor.
5. "BTEX" means the total chemical constituents benzene, toluene, ethyl benzene, and total xylenes.
6. "Chemical oxidation" means a chemical reaction that increases the oxygen content in a compound or a reaction in which an element or ion loses electrons, resulting in a more positive valence.
7. "Class I soil" means soil contaminated with one or more of the following contaminants: gasoline, jet fuels, diesel fuels, kerosene, distillate fuel oils (number one and number two fuel oils), and other contaminants as approved by the Department for this classification.
8. "Class II soil" means soil contaminated with one or more of the following contaminants: combination fuel oils (number three and number four fuel oils), residual fuel oils (number five and number six fuel oils), virgin lubricating oils, used oils, weathered oils, other petroleum based products not listed in Class I, and other contaminants as approved by the Department for this classification.
9. "Class III soil" means soil contaminated with any contaminant other than those listed under Class I or Class II.
10. "Composting" means treatment of contaminated soil by aerobic biodegradation of contaminants in an above ground, contained, or uncontained environment.
11. "Contaminated soil" means soil and soil-like material containing contaminants at a concentration that the Department has deemed poses a potential threat to human health and/or the environment and that does not constitute a hazardous waste, as defined by RCRA, the SCHWMA, and the Regulations promulgated pursuant thereto, as amended.
12. "Department" means the South Carolina Department of Health and Environmental Control.
13. "Existing facility" means those facilities in place and operating on the effective date of this regulation.

14. “Ex-situ” means the excavation of contaminated soil from its original location followed by treatment off-site.
15. “Facility” means all contiguous land, structures, other appurtenances and improvements on the land used for treating and storing waste. A facility may consist of several treatment, storage, or disposal operational units.
16. “generator” means any person whose act or process produces or results in contaminated soil.
17. “Incineration” means an ex-situ technology that uses heating to volatilize and combust organic constituents.
18. “In-situ” means the treatment of contaminated soil on-site without excavation of the soil.
19. “Leachate” means a liquid that has passed through or emerged from contaminated soil and contains soluble, suspended, or miscible materials removed from such soil.
20. “Low-Temperature Thermal Desorption” (LTTD), also known as “low-temperature thermal volatilization,” “thermal stripping,” and “soil roasting,” means the ex-situ technology that uses heat to physically separate contaminants from excavated soil. Vaporized hydrocarbons may require treatment in a secondary treatment unit, such as an afterburner, prior to atmospheric discharge.
21. “New facility” means those treatment facilities not in place and operating on the effective date of this regulation.
22. “Off-site” means a location other than the property on which the contamination of the soil occurred and any contiguous property under the same ownership.
23. “On-site” means the property on which the contamination of the soil occurred and all contiguous property under the same ownership.
24. “Open-dumping” means any unpermitted solid waste disposal activity.
25. “Owner/operator” means the person who owns the land on which a solid waste management facility is located or the person who is responsible for the overall operation of the facility, or both.
25. “PAH” means polynuclear aromatic hydrocarbons
26. “Person” means an individual, corporation, company, association, partnership, unit of local government, state agency, federal agency, or other legal entity.
27. “Prepared beds” means a contained area above ground where soil can be tilled or variously manipulated to increase biological treatment, i.e., contained land farming.

28. “RD&D Permit” means a research, development and demonstration permit issued pursuant to R.61-107.10.
29. “Residence” means any structure, all or part of which is designed or used for human habitation, that has received a final permit for electricity, permanent potable water supply, permanent sewage disposal, and a certificate of occupancy, if required by the local government.
30. “Road base” means that portion of road construction which is over-lain with a permanent impervious surface.
31. “Shipment” means all soil from the same release area.
32. “Soil-like material” means material, man-made or naturally occurring, that has good absorption capabilities and is used to absorb and bulk solid waste spills, e.g., kaolin clay, bentonite, kitty litter, sand, vermiculite.
33. “Soil slurry reactor” means biological or chemical treatment of soil by making a mixture with water and treating in a contained vessel.
34. “Soil treatment facility” means a facility that treats contaminated soil and soil-like material.
35. “Soil venting,” means a method to remove volatile and semi-volatile contaminants from soil. A positive or negative air pressure is applied either passively or actively to soil to remove vapors which are appropriately treated.
36. “Soil washing” means an ex-situ process to mechanically scrub soil to remove contaminants. Soil particles are separated from soil in an aqueous-based system. The wash water may be augmented with leaching agents, surfactants, pH adjustment or chelating agents.
37. “TCLP” means Toxicity Characteristic Leaching Procedure, a laboratory test used to determine if a substance is a hazardous waste due to leachability. The TCLP (Method 1311) is published in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846, as incorporated by reference in R.61-79.260.11.
38. “TPH” means total petroleum hydrocarbons.
39. “Treatment” means the off-site manipulation of contaminated soil in a confined and regulated environment to bring the soil into compliance with standards established in this regulation.
40. “Used Oil” means any oil that has been refined from crude oil or synthetic oil that has been used, and as a result of such use is contaminated by physical or chemical impurities.
41. “Virgin oil” means oil that has never been used or weathered.
42. “Waste profile sheet” means a form filled out by the waste generator outlining specific information regarding the generator, generator’s site location, generating process information, and a full

waste characterization. This includes describing the chemical and physical (solid, liquid, or gas) characteristics of the solid waste, a description of the waste including a list of the chemical contaminants in the waste, analytical testing certification, quantity, and container size for proper disposal. The generator shall submit the waste profile sheet to the treatment facility for approval prior to shipment of soil pursuant to this regulation.

43. “Weathered oil” means oil that has been exposed to leaching and low-level biodegradation or biotransformation and soil chemical reactions for extended periods of time, resulting in a contaminant chemical composition that is no longer virgin oil.

C. General Provisions.

1. The siting, design, construction, operation, and closure activities for facilities that treat contaminated soil shall conform to the standards set forth in this regulation, unless otherwise approved by the Department. Engineering plans, specifications, reports and other documents approved by the Department during the review process shall become enforceable documents upon issuance of a permit pursuant to this regulation. Facilities shall be constructed as approved and permitted.

2. Prior to the construction of a new soil treatment facility, a permit shall be obtained from the Department pursuant to this regulation. Prior to the modification of an existing soil treatment facility, as-built drawings of the existing facility which have current Department approval shall be submitted in addition to plans and specifications of proposed modifications to the facility. Any modification to the design/operation of a facility that would change the language of the permit shall receive prior Department approval.

3. Prior to operation of a new permitted soil treatment facility or a permitted modification to an existing facility, the facility shall be inspected by the Department and receive operational approval.

4. The Department reserves the right to require the soil treatment facility to acquire an RD&D permit pursuant to Regulation 61-107.10 for any process or compound for which the information provided is deemed insufficient to establish the efficacy of the proposed process to the Department's satisfaction. If, after the two (2) years expiration of the RD&D permit, the process is proved to be a viable method for treating soil, a permit pursuant to this regulation may be issued for the process. Petroleum and other compounds that have been shown to be highly degradable via the proposed treatment process will not generally require a RD&D permit. A permit requested pursuant to this regulation may be denied should the process not be determined to be acceptable to the Department's satisfaction.

5. No later than six (6) months from the effective date of this regulation, existing soil treatment facilities shall submit to the Department a permit application with supporting documents as outlined in Section D of this regulation.

6. Failure to begin construction of the treatment facility within twelve (12) months of the issuance of the Department permit shall render that permit invalid.

7. Upon reasonable cause to suspect that the treatment facility and/or treatment process poses a threat to human health or the environment, the Department, upon notification to the owner/operator, may

require the owner/operator to investigate and, if appropriate, develop and implement a corrective action program approved by the Department.

8. Soil treatment facilities shall demonstrate consistency with the host Region/County Solid Waste Management Plan pursuant to Section D. of this regulation.

9. Open dumping of contaminated soil is prohibited.

10. Soil treatment facilities shall adhere to Federal and State rules and regulations and local zoning, land use and other applicable local ordinances and OSHA requirements.

11. Transfer of ownership.

a. The Department may, upon prior written request, transfer a permit to a new owner or operator of a soil treatment facility where no other change in the permit is necessary. The proposed new owner or operator of a permitted soil treatment facility shall, at least forty-five (45) days prior to the scheduled change in ownership or operating responsibility, provide to the Department:

(1) Documentation of the new owner=s name and address;

(2) Documentation of the name and address of the party responsible for the operation and maintenance of the facility, if different from the owner;

(3) A written agreement signed by the current owner/operator and the proposed new owner/operator indicating the intent to change ownership or operating responsibility of the facility. The agreement shall contain a specific date for the transfer of permit responsibility;

(4) Documentation indicating that the facility shall be operated in accordance with the existing permit in effect at the time of transfer;

(5) Documentation of financial assurance as required in Section E. of this regulation. The previous owner/operator shall maintain financial assurance responsibilities until the new owner/operator can demonstrate satisfactory compliance with the financial assurance requirements outlined in this regulation; and,

(6) A disclosure statement as required in Section D. of this regulation.

b. Upon approval of all documents required by Item 11.a. above, the Department shall transfer the permit from the current owner/operator of the facility to the new owner/operator.

c. A request for a permit modification shall be submitted with the permit transfer request, if the facility will not be operated in accordance with the approved plans. The permit modification shall be in accordance with all provisions of this regulation.

d. The new owner shall submit legal documentation to the Department of the transfer of ownership of the facility within fifteen (15) days of the actual transfer.

12. All chemical and biological analyses required by this regulation for submittal to the Department shall be analyzed by a laboratory certified by the Department for that particular parameter.

13. All analytical methods used shall be appropriate for the parameters being quantified given the sample matrix (gasoline and diesel range organics at a minimum.) Quantification of total petroleum hydrocarbons shall employ appropriate extraction methods and include both short and long chain hydrocarbons.

14. Approval from the State Toxicologist shall be required when intergeneric (i.e., bioengineered) microorganisms or pathogenic (i.e., disease-causing) microorganisms are used in the proposed technology.

15. A maintenance plan shall be submitted that describes how each major component of the soil treatment facility and all associated equipment shall be maintained at the facility, and how the facility shall be operated in accordance with its intended use.

16. It is incumbent on the soil treatment facility to ensure that any soil-like material is compatible with the approved treatment process. Any contaminants in the soil-like material shall be treated to acceptable standards.

D. Administrative Review. All off-site soil treatment facilities shall request and obtain a Department permit pursuant to this regulation.

1. The first phase of the Department=s review is the administrative review. All permit requests submitted to the Department shall include three (3) copies of the following documents for administrative review:

a. A letter from the host region/county of the soil treatment facility stating that the facility is consistent with the host region/county=s solid waste management plan;

b. A letter of proof of proper zoning and land use from the county or city;

c. A letter from the Office of Ocean and Coastal Resources Management (OCRM) stating that the project is consistent with the South Carolina Coastal Zone Management Plan if the proposed treatment facility is located in the coastal zone as defined by the OCRM or stating that the facility is exempt from this requirement because it is not located in that zone;

d. A letter from the Department=s air program stating that the project is consistent with the goals of the South Carolina State Implementation Plan.

e. A disclosure statement, pursuant to S.C. Code Section 44-96-300, as amended. The Department may accept one disclosure statement for multiple facility permit applicants. Local governments and regions comprised of local governments are exempt from this requirement;

f. A cost estimate for complete closure of the facility. This estimate requires Department approval prior to the owner/operator establishing a financial assurance mechanism pursuant to Section E. of this

regulation that shall ensure satisfactory closure of the facility;

- g. A written request for any variances from the requirements of this regulation;
- h. A completed permit application on a form provided by the Department, to include a brief description of the method of soil treatment;
- i. Complete engineering plans and reports that are stamped by a South Carolina Licensed Professional Engineer in accordance with Section E. of this regulation; and,
- j. A letter of approval from the State Toxicologist for the use of chemical and biological agents, if applicable.

2. When administratively complete, the Department will public notice the permit application and begin the technical review. Comments will be accepted throughout the technical review period.

E. Technical Review and Design Requirements. The Department=s technical review of the permit application will involve the documents addressed in this section. All soil treatment facilities shall meet the criteria established in this section.

1. Siting Requirements.

a. Engineering Plans and Reports. The engineering plans and reports, pursuant to Section D.1.i. of this regulation, shall include the following documents:

(1) A site plan of the facility layout on a scale of not greater than two hundred (200) feet per inch clearly identifying conditions at the site. This plan shall at a minimum identify the following items:

(a) Identified on plan as “existing”: property boundaries and all existing site conditions to be utilized in the operation of the soil treatment facility including, but not limited to, structures, access roads, on-site roads, parking areas, loading and unloading areas, soil storage areas, processing areas, fences, and gates; and

(b) Identified on plan as “proposed”: all proposed site conditions that will be constructed including, but not limited to, structures, access roads, loading and unloading areas, soil storage areas, processing areas, fences, and gates; and,

(2) A location map that shows the location of all residences, schools, churches, day-care centers, hospitals, publicly owned recreational park areas, drinking water wells, monitoring wells, injection wells, roads, surface water bodies, dry runs, wetlands, the 100-year flood plain boundaries, and other applicable details regarding the general topography of the site and adjacent properties within one-fourth (3) mile of the proposed site=s property line.

b. Depending on conditions defined in Items E.1.a.(1)(a) and (b), and E.1.a.(2) above, the Department may require additional hydrogeological investigation prior to permit approval.

c. Site Standards. The site for a new soil treatment facility or expansion of an existing facility shall meet the standards outlined below, unless otherwise approved by the Department. Compliance with these standards shall be demonstrated in the engineering plans and reports referenced in Section E.1.a. of this regulation.

(1) A soil treatment facility located in a 100-year floodplain shall not restrict the flow of the 100-year flood as demonstrated on a 100-year flood plain map.

(2) A soil treatment facility shall be in compliance with the U.S. Army Corps of Engineers and the U. S. Environmental Protection Agency requirements concerning wetlands, where applicable.

(3) The soil treatment and storage area boundaries, as identified in the location map, shall not be located within:

(a) One hundred (100) feet of any property line;

(b) Two hundred (200) feet of any residence, school, church, day-care center, hospital or publicly owned recreational park area;

(c) Two hundred (200) feet of any surface water body which holds visible water for greater than six (6) consecutive months, excluding drainage ditches, sedimentation ponds and other operational features on the site; and,

(d) One hundred (100) feet of any drinking water well.

2. Facility Layout Requirements/Design Criteria.

a. Engineering Plans and Reports. The engineering plans and reports, pursuant to Section D.1.i. of this regulation, shall, at a minimum, include the following:

(1) All pertinent engineering drawings, on a scale no greater than one (1) foot per quarter inch, that identify and distinguish all existing and proposed construction of items (a) & (b) listed immediately below. Representative cross sections shall be used to show compliance with these requirements.

(a) The treatment process; and,

(b) The entire soil treatment facility, including, but not limited to, loading/unloading area(s), in-coming contaminated soil storage area(s), out-going treated soil storage area(s), soil processing area(s), impermeable floor, containment system(s), alarm system, fire fighting system, and leachate control system, if applicable.

(2) Technical details and specifications necessary to support the engineering drawings and operation plans for the facility including, but not limited to:

(a) A general operating plan including, but not limited to, a description of the methods of

keeping all incoming shipments of contaminated soil segregated, the types and maximum quantity of contaminated soil to be accepted on a yearly basis, the storage areas for in-coming contaminated and outgoing treated soil, the method(s) of preventing releases to the environment, and the measures taken to prevent unauthorized dumping and access.

(b) A plan for handling process waste water generated by the facility, if appropriate.

(c) A description of the treatment process. This detailed description shall, at a minimum, specify the methodology of the process to address how each of the following criteria impacts the process:

- (i) Temperature(s)
- (ii) Concentrations of contaminants
- (iii) Microorganism activity
- (iv) Nutrients - including oxygen
- (v) Physical adjustments (mixing, tilling, etc.)
- (vi) Moisture
- (vii) pH adjustments
- (viii) Soil characteristics
- (ix) Concentrations of chemicals added
- (x) Process by-product(s), and
- (xi) Any other criteria applicable to the process to be used.

(d) A soil screening plan to ensure that the facility accepts only properly characterized soil that it is permitted to treat, and removes only the soil from the soil treatment facility that has been tested and meets the standards set forth in this plan. This portion of the plan shall, at a minimum, specify the following:

- (i) The criteria from which determinations are made on whether to accept or reject contaminated soil;
- (ii) The procedure and time frame that will be used to verify that waste profile sheets provided by the generator match all shipments of soil;
- (iii) The procedure and time frame that will be taken if an incoming shipment of contaminated soil does not match the waste profile sheet provided by the generator including, but not limited to, a description of how the shipment will be managed and stored or removed based on the type

waste;

(iv) The criteria used to determine whether the shipment of treated soil meets the standards for removal from the soil treatment facility;

(v) The procedure for the proper handling, storage, and removal of all treated soil; and,

(vi) Analytical procedures and protocols.

(e) Upon receipt of a petition, the Department may consider sampling reduction based on consistent demonstration of treatment results. The petition shall include technical justification and a proposed alternate sampling plan. Upon approval by the Department in writing, the facility's permit will be amended to reflect the change in sampling frequency and the new sampling plan may be implemented.

(f) A contingency plan that describes a technically and financially feasible course of action to be taken in response to contingencies during the operation of the facility. This plan shall set forth procedures to be employed during periods of non-operation, e.g., equipment breakdown which may require standby equipment, extension of operation hours, or diversion of shipments to other facilities. The plan shall be designed to minimize hazards to human health and the environment from fires, explosions, or any unplanned sudden or non-sudden release of potentially harmful constituents to air, soil or surface water.

(g) A detailed closure plan which shall identify the steps necessary to close the facility. It shall identify the components at the facility that will remain in-place and those that will be removed. The plan shall be amended whenever changes in operating plans or facility design effect the closure plan. The plan shall address the satisfactory maintenance, closure and post-closure care, monitoring and/or corrective action, if appropriate.

(h) A plan for training personnel to perform their duties in a way that ensures the facility's compliance with this regulation and their health and safety.

b. Design Standards. Unless otherwise approved by the Department, all soil treatment facilities shall be designed in accordance with the following standards:

(1) Access to the facility shall be controlled through the use of fences, gates, berms, natural barriers, or other means to prevent unauthorized dumping and access;

(2) Contaminated soil awaiting processing shall be completely contained from the outside environment and shall be:

(a) Placed only on an impermeable surface, e.g., sealed concrete;

(b) Stored in such a manner as to prevent releases to the environment; and,

(c) Covered with either a structure or an impermeable cover.

(3) The Department may require the process area to be covered and containment barriers

installed based on the technology approved. During processing, soil shall be:

- (a) Placed only on an impermeable surface, e.g., sealed concrete; and,
- (b) Maintained in such a manner as to prevent releases to the environment.

c. Operation Standards.

(1) The facility shall be operated and maintained in a manner which will protect the established water quality standards of the surface and ground waters, and the air quality standards.

(2) Dust, odors, fire hazards, litter and vectors shall be effectively controlled so they do not constitute nuisances or hazards.

(3) Personnel Training. The personnel training program shall at a minimum:

(a) Identify positions that will require training and a knowledge of the procedures, equipment, and processes at the facility;

(b) Instruct facility personnel in how to perform their duties in a way that ensures the facility's compliance with this regulation, including the proper procedures for handling unauthorized solid waste;

(c) Instruct facility personnel in the proper responses to all emergencies and require employees to become familiar with the contingency plan, emergency and safety equipment, emergency procedures and emergency systems; and,

(d) Document employee training. This documentation shall be maintained at the facility for all employees. Documentation of training shall include the following:

(i) The job title for each position related to solid waste management at the facility and the name of the employee filling each position;

(ii) A written job description for each position including the requisite skill, education or other qualifications, and duties of employees assigned to each position;

(iii) A written description of the type and amount of both introductory and continuing training that will be given to each employee; and,

(iv) Records that document the training and/or job experience completed by each employee. Training records for each employee shall be maintained at the facility for a minimum of three (3) years for all current personnel.

(4) Soil containing non-compatible contaminants shall not be mixed during processing.

(5) Any contaminated soil received that is not acceptable for treatment, based on the

facility's permit, shall be removed from the facility within ten (10) days of receipt in accordance with an approved contingency plan. Should the facility receive known or suspected hazardous wastes, a representative of the facility shall call the appropriate Department EQC District Office within twenty-four (24) hours of receipt.

(6) A waste profile sheet shall be provided with each soil shipment received by the soil treatment facility.

(7) Leachate and washwater from a soil treatment facility, including soil storage areas, shall not be allowed to drain or discharge into waters of the State unless an effluent disposal permit, i.e., National Pollutant Discharge Elimination System (NPDES), No Discharge (ND), or Underground Injection Permit, has been granted by the Department.

(8) Treated soil stored outside shall be managed in such a manner as to comply with S.C. Regulation 61-9, Water Pollution Control Permits and the NPDES General Permit issued pursuant to Regulation 61-9, as amended.

(9) A construction permit from the Department's air program shall be required for the storage or processing of any soil that may cause the release of any regulated air pollutant unless an exemption is granted pursuant to S.C. Regulation 61-62.1.II.A, Air Pollution Control Regulations and Standards.

(10) Treated soils for restricted use shall be stored on a covered, nonporous surface.

(11) Emergency Preparedness. In addition to requirements set forth in the contingency plan, all soil treatment facilities shall, at a minimum:

(a) Provide access to fire equipment and make provisions for availability of local fire-fighting services;

(b) Be equipped with a device, e.g., telephone or hand held two-way radio, at the scene of operations capable of summoning emergency assistance from local police departments, fire departments, and State or local emergency response teams;

(c) Be equipped with portable fire extinguishers and other fire control equipment; and,

(d) Ensure that facility personnel are trained to respond effectively to all emergencies, including different types of fires, by familiarizing them with the contingency plan, emergency and safety equipment, emergency procedures and emergency systems.

(12) Signs. Signs shall be posted and maintained in conspicuous places which:

(a) Identify the owner, operator, or a contact person and telephone number in case of emergencies and the hours during which the facility is open for business;

(b) Identify that the facility is a soil treatment facility; and,

(c) Identify the valid DHEC Solid Waste Permit Number for the soil treatment facility.

(13) Financial Assurance. Prior to accepting contaminated soil, soil treatment facilities shall fund a financial responsibility mechanism acceptable to the Department to ensure the satisfactory maintenance, closure and post-closure care. A final closure cost estimate, based on third party costs to complete closure by disposing of the maximum quantity of material at a facility, shall be calculated annually and adjusted annually, as necessary. Local governments are exempt from this requirement until such time as federal regulations require such local governments or regions to demonstrate financial responsibility for such facilities and the Department promulgates regulations addressing this issue.

F. Standards.

1. General Requirements. Soil shall be treated in accordance with the following criteria:

a. Soil shall be treated to levels that are protective of human health and the environment as approved by the Department. Treatment standards shall be based in part upon the intended use of the soil after the treatment process is complete. It is the responsibility of the permitted treatment facility to provide to the user of the treated soil written notice stating the treatment goals achieved and the end use of the soil as approved by the Department, including any restrictions on the use of the soil that are included in the facility's permit or in this regulation.

b. Contaminated soil treated under the purview of this regulation shall not be used to grow edible food crops nor to supplement soil used for the purpose of growing edible food crops. Other agricultural uses of soil treated under this regulation shall require approval from the Department prior to use.

c. Soil treated under the purview of this regulation shall not contain benzene in excess of 5 ppb after treatment unless it can be demonstrated that the end use of the treated soil will not impact groundwater such that it would exceed 5 ppb benzene or cause an adverse risk to human health as determined by the Department. Any soil treated to >5 ppb benzene shall be for restricted end use to be approved by the Department.

d. The type, composition, breakdown products and potential affect to human health and the environment shall be provided for all materials or microorganisms introduced into the soil for treatment purposes. In addition, the breakdown products for the microorganisms and contaminants being treated in the process shall be clearly defined.

e. The Department may require additional soil testing and/or alternate treatment activities, and/or soil removal for proper disposal, if the permittee is unable to demonstrate that the treatment process is effective, or the process has failed to perform to design standards. Additional testing and/or treatment may be required if constituents are present in the soils for which the permitted treatment process will not be effective, e.g., metals.

f. Based on the nature of the treatment process and the types of soil proposed for treatment at the facility, the Department may require additional environmental monitoring to be performed at the facility. Likewise, additional engineering provisions may be required by the Department to ensure protection of

human health and the environment.

g. Contaminated soil shall be categorized into three classes, i.e., Class I, Class II, or Class III, based on the contaminants present in the soil. Treatment levels to be achieved for each class of soil differ.

h. Soil treated under the purview of this regulation shall be used in a manner which minimizes contact with the seasonal high water table.

i. When facilities co-mingle compatible soils prior to treatment, the end use of the treated co-mingled soil shall be limited to the most conservative end use as determined from the approved end uses identified for each of the co-mingled soils by permit.

2. Class I. Class I soil is soil contaminated with one or more of the following contaminants: gasoline, jet fuels, diesel fuels, kerosene, and distillate fuel oils (number one and number two fuel oils.) Treatment levels for Class I contaminated soil shall depend on the planned end use of the soil after treatment processes are completed:

a. All Class I contaminated soil shall be analyzed for total petroleum hydrocarbons (TPH), and total benzene, toluene, ethyl benzene and xylene (BTEX).

b. Class I contaminated soil which is for restricted specific end uses as approved by the Department, e.g., as cover at municipal solid waste landfills, or in road base or similar types of construction, shall, unless otherwise approved by the Department, be treated to the following levels or below for TPH and BTEX:

<u>TPH</u>	<u>BTEX (total)</u>
200 ppm	20 ppm (with Benzene <5 ppb)

c. For all unrestricted end uses, Class I contaminated soil shall be treated to the following levels or below for TPH and BTEX:

<u>TPH</u>	<u>BTEX (total)</u>
10 ppm	1 ppm (with Benzene <5 ppb)

d. Alternate treatment levels may be specified by the Department based on the intended final use of the soil and the potential risk to human health and the environment.

e. The Department may require testing of incoming batches of contaminated soil and treated soil for additional parameters other than TPH and BTEX should there be reason to believe that other parameters of potential concern are present in the soil. Treatment levels for these additional parameters shall be determined by the Department on a case-by-case basis, taking end use into consideration and potential risk to human health and the environment.

3. Class II. Class II soil is soil contaminated with one or more of the following contaminants: combination fuel oils (number three and number four fuel oils), residual fuel oils (number five and number

six fuel oils), virgin lubricating oils, weathered oils, and used oils that have not been mixed with other waste. Treatment levels for Class II contaminated soil shall depend on the planned end use of the soil after treatment processes are completed:

a. All Class II soil shall be analyzed for TPH, BTEX (total), and polynuclear aromatic hydrocarbons (PAH.)

b. Class II contaminated soil, including contaminated soil with polynuclear aromatic hydrocarbons (PAH) levels that exceed those levels listed in the current EPA approved Risk Based Concentrations (RBC) tables as determined by the Department, shall be restricted to specific end uses as approved by the Department, e.g., as cover at municipal solid waste landfills, or in road base or similar types of construction. Unless otherwise approved by the Department, this soil shall be treated to the following levels or below:

<u>TPH</u>	<u>BTEX (total)</u>	<u>PAH</u>
200 ppm	20 ppm (with Benzene <5 ppb)	≥ RBC values

c. For all unrestricted end uses, Class II contaminated soil shall be treated to the following levels or below:

<u>TPH</u>	<u>BTEX (total)</u>	<u>PAH</u>
10 ppm	1 ppm (with Benzene <5 ppb)	< RBC values

d. Soil contaminated with used oil and soil contaminated with weathered oil shall be considered as Class II.a. soil and shall be restricted to specific end use, as approved by the Department.

e. Alternate treatment levels may be specified by the Department based on the intended final use of the soil and the potential risk to human health and the environment.

f. The Department may require testing of incoming batches of contaminated soil and treated soil for additional parameters other than TPH, BTEX, and PAH should there be reason to believe that other parameters of potential concern are present in the soil. Treatment levels for these additional parameters shall be determined by the Department on a case-by-case basis, taking end use into consideration and potential risk to human health and the environment.

4. Class III. Class III soil is soil contaminated with any contaminant other than those listed under Classes I and II above.

a. Facilities applying for a Class III permit under this regulation shall submit for Department review, technical data that demonstrates that the proposed soil treatment technique can treat soil to concentration levels equal to or less than those levels listed in the current EPA approved Risk Based Concentrations (RBC) tables as determined by the Department. If the applicant fails to submit data, or the Department determines that the data submitted is insufficient, the facility shall obtain a Research, Development, and Demonstration (RD&D) permit as outlined in R.61-107.10. If the facility demonstrates to the Department under the RD&D permit that the soil treatment technique used is effective on each contaminant to be treated without the creation of harmful degradation products, the Department will issue

the facility a Class III permit, pursuant to this regulation.

b. The permittee shall submit a list of contaminants to the Department for review and approval based on the chemical and physical nature of the Class III contaminated soil. Based on this information, the Department shall determine appropriate levels of treatment.

c. All Class III soil shall be analyzed for parameters approved by the Department.

d. The end use of Class III contaminated soil shall be approved by the Department prior to accepting the soil for treatment. Treatment levels for soil to be treated shall be determined by the Department on a case-by-case basis, and based on the intended end use. The Department will take potential risk to human health and the environment into consideration when determining appropriate treatment levels. These site specific determinations may be based on current EPA approved risk based concentrations (RBC) tables, toxicological review, scientifically defensible published data which are appropriate for use in developing permit limits and contaminant levels for which EPA has not developed national criteria or for which South Carolina has no standards. The Department will consider the site specific routes of potential exposure and the hydrogeological conditions for the potential to leach contaminants to the water table, and will use health and/or technical literature.

e. Those treatment processes which can be proved to the Department to effectively treat the contaminants in the Class III contaminated soil may be exempted from the requirements to obtain a RD&D permit under R.61-107.10 and may be permitted under this regulation. In all cases, the Department shall retain the authority to set treatment levels based on end use considerations to ensure treatment is protective of human health, surface water standards, and ground water standards.

5. Facilities may be permitted to treat only Class I soil, only Class II soil, only Class III soil, or a combination of any of these soil types. Any facility treating a combination of contaminated soil types that includes Class III soil type may be required to receive a permit under the authority of this regulation, and also a RD&D permit. Upon the two years expiration of the RD&D permit, if the process is proved to be a viable method for treating soil, the facility's existing permit issued under the authority of this regulation may be amended to include the treatment process proved viable under the RD&D permit.

G. Monitoring and Reporting Requirements.

1. Should the Department have evidence to suspect potential environmental and/or health problems associated with the treatment facility, monitoring (including groundwater, surface water, and air quality) may be required by the Department, as appropriate, and based on a case-by-case evaluation to ensure protection of the environment.

2. An annual report, on a form provided by, or acceptable to, the Department, shall be submitted to the Department by October 15 for the previous fiscal year (July 1 through June 30,) which includes, at a minimum, the following information:

- a. The total quantity in tons of contaminated soil received at the facility for the previous fiscal year;
- b. The total quantity in tons of treated soil transported off-site and the destination of this soil; and,
- c. The county in South Carolina in which the contaminated soil originated, or the State if the soil originated outside South Carolina.

3. Analytical data showing that all treated soil met appropriate standards, pursuant to Section F. of this regulation, prior to removal from the facility, shall be maintained on-site for a minimum of five (5) years from the date the results are received from the laboratory. This data shall be generated by a laboratory certified by DHEC for the required parameters and in accordance with SW-846, Chapter 9. This data shall be made available to the Department upon request.

4. Documentation related to the acceptance, rejection, storage, operational data, and proper disposal of all contaminated soil received by the facility shall be maintained for a minimum of five (5) years, and made available to the Department upon request.

5. Upon implementation of the contingency plan, the owner or operator shall immediately notify the Department (using the 24-hour number 803-253-6488) and note, in the operating record and annual report, the following information:

- a. The name, address and telephone number of the operator and the facility;
- b. The date, time and type of incident (spill, fire, explosion, etc.); and,
- c. The extent of physical damages to the operational part of the facility.

6. Upon request by the Department in response to a notification made in Item 5 of this Section, a written report shall be submitted to the Department that includes the following information:

- a. An assessment of actual or potential hazards to human health or the environment, where this is applicable;
- b. The procedures or equipment available to prevent a recurrence of the reported event; and,

c. Any long-term corrective action proposals. Upon Department review and approval, the corrective action proposal shall be implemented.

7. Records of all monitoring and reporting information, pursuant to these regulations, shall be maintained at the facility for a minimum of five (5) years from the sample or measurement date, unless otherwise specified by the Department. These reports shall be made available to Department personnel upon request.

H. Closure and Post-Closure Procedures. The following closure and post-closure procedures addressed in this section apply to all soil treatment facilities:

1. At least sixty (60) days prior to closure, the owner or operator shall submit to the Department written notice of intent to close and a proposed closure date;

2. Upon closing, the owner or operator shall immediately remove all treated soil, properly dispose of any waste associated with the treatment process, transport all contaminated soil to either another permitted soil treatment facility or permitted disposal facility, and post signs at the facility which state that the facility is no longer in operation;

3. Within thirty (30) days of final removal of all contaminated and treated soil, the owner or operator shall complete closure as outlined in the facility's approved closure plan and notify the Department;

4. After receiving notification that the facility closure is complete, the Department will conduct an inspection of the facility. If all procedures have been correctly completed, the Department will approve the closure in writing, at which time the Department permit shall be terminated; and,

5. If the Department's inspection reveals that closure, as outlined in the facility's approved closure plan, is incomplete, the owner or operator shall submit to the Department a post-closure care plan for Department approval to address the deficiencies noted by the Department. Post closure environmental monitoring and/or corrective action may be required. This post-closure care plan, if required, shall be submitted within thirty (30) days of the inspection, and shall include a time table.

I. Violations and Penalties. A violation of this regulation or any permit, order, or standard issued pursuant to or related to this regulation subjects the person to the issuance of a Department order or to civil enforcement action in accordance with S.C. Code Section 44-96-450, as amended, which may include civil penalties in accordance with the Solid Waste Policy and Management Act (SCPMA) and any amendments thereto. Willful violation of this regulation or any permit, order, or standard issued pursuant to or related to this regulation subjects the person to the issuance of a Department order which may also include civil penalties in accordance with the SCPMA, as amended, and may also result in a criminal enforcement action in accordance with S.C. Code Section 44-96-450, as amended. Any person to whom an administrative order is issued may appeal it as a contested case pursuant to R.61-72, Procedures for Contested Cases, and the S.C. Administrative Procedures Act, S.C. Code Section 1-23-310 et seq., as amended.

J. Severability. Should any section, paragraph, sentence, clause or phrase of this regulation be declared

unconstitutional or invalid for any reason, the remainder of this regulation shall not be affected thereby.

R. 61-107.258. Solid Waste Management: Municipal Solid Waste Landfills.

SUBPART A - GENERAL PROVISIONS

258.1. PURPOSE, SCOPE, AND APPLICABILITY

a. The purpose of this regulation is to establish minimum criteria under the South Carolina Solid Waste Policy and Management Act of 1991, as amended, and all applicable federal regulations, for all municipal solid waste landfill (MSWLF) units, as well as, for municipal solid waste landfills that are used to dispose of sewage sludge. These minimum criteria ensure the protection of human health and the environment.

b. These regulations apply to owners and operators of new MSWLF units, existing MSWLF units, and lateral expansions, except as otherwise specifically provided in this regulation.

c. MSWLF units that receive waste after October 9, 1991 but stop receiving waste before October 9, 1993 are exempt from the requirements of this part 258, with the exception of the closure criteria in 258.60 and post-closure care requirements in section 258.61. The final cover must be installed within six months of last receipt of wastes. Owners or operators of MSWLF units described in this paragraph that fail to complete cover installation within this six (6) month period will be subject to all the requirements of this part 258, unless otherwise specified.

d. All MSWLF units that receive waste on or after October 9, 1993 must comply with all requirements of this regulation unless otherwise specified.

e. The effective date of this regulation is October 9, 1993, except subpart G of this regulation is effective April 9, 1994.

f. The Department may allow vertical expansion of an existing MSWLF unit for a period not to exceed two (2) years after the effective date of these regulations (October 9, 1993), on a case by case basis. Vertical expansions allowing capacity after October 9, 1993 shall be exempted from the requirements of Subpart B and Subpart D. Any request for a temporary exemption from the requirements of Subparts B and D shall be made to the Department in the form of an application for a vertical expansion to the Department prior to the effective date of this regulation. Vertical expansions shall apply only to those portions of the MSWLF unit that have previously received waste prior to October 9, 1993, and have received waste consistent with past operating practices.

g. No facility for the disposal of municipal solid waste shall be operated in the State of South Carolina without first obtaining a written permit from the South Carolina Department of Health and Environmental Control.

h. MSWLF units failing to satisfy these criteria are considered open dumps for purposes of State solid waste management planning under RCRA.

i. MSWLF units failing to satisfy these criteria constitute open dumps, which are prohibited under section 4005 of RCRA.

j. MSWLF units containing sewage sludge and failing to satisfy these criteria violate sections 309 and 405(e) of the Clean Water Act.

k. All MSWLF units permitted prior to, and after the effective date of this regulation, which receive waste on or after October 9, 1998, must comply with all requirements of this regulation. All MSWLF units which do not meet the criteria specified in Subparts B, C, D, E, and F of this regulation must close prior to October 9, 1998.

258.2. DEFINITIONS

a. "Active life" means the period of operation beginning with the initial receipt of solid waste and ending at completion of closure activities in accordance with 258.60 of this part.

b. "Active portion" means that part of a facility or unit that has received or is receiving wastes and that has not been closed in accordance with 258.60 of this part.

c. "Areas of complex hydrogeology" typically include, but are not limited to, karst terrane; fractured rock formations (joints and faults; excludes healed fractures) irregularly stratified geologic deposits (e.g., certain fluvial, deltaic and barrier island deposits); mixed hydrogeologic regimes (e.g., sedimentary deposits overlying fractured crystalline bedrock); folded areas where flow paths may be contorted, and recharge zones where background water quality cannot be determined.

d. "Aquifer" means a geological formation, group of formations, or portion of a formation capable of yielding significant quantities of groundwater to wells or springs.

e. "Class GA groundwater" is defined in the South Carolina Water Classifications and Standards, R.61-68, as those groundwaters that are characterized by either of the following factors: the groundwater is irreplaceable because no reasonable alternative source of drinking water is available to substantial populations, or the groundwater is ecologically vital because it provides the base flow for a particularly sensitive ecological system that, if polluted, would destroy a unique habitat.

f. "Commercial solid waste" means all types of solid waste generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding residential and industrial wastes.

g. "Department" means the South Carolina Department of Health and Environmental Control.

h. "Existing MSWLF unit" means any municipal solid waste landfill unit that is receiving solid waste as of the effective date of this part (October 9, 1993). Waste placement in existing units must be consistent with past operating practices or modified practices to ensure good management.

i. "Facility" means all contiguous land and structures, other appurtenances, and improvements on the land used for the disposal of solid waste.

- j. "Groundwater" means water below the land surface in a zone of saturation.
- k. "High water table" means the highest water levels measured in on-site monitoring wells for a period consisting of four (4) consecutive quarters.
- l. "Household waste" means any solid waste (including garbage, trash, and sanitary waste in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas).
- m. "Industrial solid waste" means solid waste generated by manufacturing or industrial processes that is not a hazardous waste regulated under subtitle C of RCRA. Such waste may include, but is not limited to, waste resulting from the following manufacturing processes: Electric power generation; fertilizer/agricultural chemicals; food and related products/by-products; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment. This term does not include mining waste or oil and gas waste.
- n. "Lateral expansion" means a horizontal expansion of the waste boundaries of an existing MSWLF unit.
- o. "Leachate" means a liquid that has passed through or emerged from solid waste and contains soluble, suspended, or miscible materials removed from such waste.
- p. "Municipal solid waste landfill unit" means a discrete area of land or an excavation that receives household waste, and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined under 257.2. A MSWLF unit also may receive other types of RCRA subtitle D wastes, such as commercial solid waste, nonhazardous sludge, conditionally exempt small quantity generator waste and industrial solid waste. Such a landfill may be publicly or privately owned. A MSWLF unit may be a new MSWLF unit, an existing MSWLF unit or a lateral expansion.
- q. "New MSWLF unit" means any municipal solid waste landfill unit that has not received waste prior to the effective date of this part (October 9, 1993).
- r. "Open burning" means the combustion of solid waste without:
 - (1) Control of combustion air to maintain adequate temperature for efficient combustion,
 - (2) Containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and
 - (3) Control of the emission of the combustion products.
- s. "Operator" means any person, including the owner, who is principally engaged in, or is in charge of, the actual operation, supervision, and maintenance of a solid waste management facility and includes the person in charge of a shift or period during any part of the day.

- t. "Owner" means the person(s) who owns a facility or part of a facility.
- u. "Perennial stream" means a stream or reach of a stream that flows continuously throughout the year and whose upper surface generally stands lower than the water table in the region adjoining the stream.
- v. "Recharge area" for a particular aquifer is defined as areas where water enters the aquifer through downward migration. Principal examples include: outcrop areas of a particular aquifer where the potentiometric head within the unit decreases with depth; and, in the subsurface, where the potentiometric head relationship and leakage factors across any confining unit allow for downward flow into other aquifer systems.
- w. "Run-off" means any rainwater, leachate, or other liquid that drains over land from any part of a facility.
- x. "Run-on" means any rainwater, leachate, or other liquid that drains over land onto any part of a facility.
- y. "Saturated zone" means that part of the earth's crust in which all voids are filled with water.
- z. "Sludge" means any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant.
- aa. "Sole source aquifer" is defined as specified in the Federal Safe Drinking Water Act.
- bb. "Solid waste" means any garbage, or refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved materials in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges that are point sources subject to permit under 33 U.S.C. 1342, or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923).
- cc. "Special Wastes" means nonresidential or commercial solid wastes, other than regulated hazardous wastes, that are either difficult or dangerous to handle and require unusual management at Municipal Solid Waste Landfills, including, but not limited to, those wastes contained in code section 44-96-390.(A).
- dd. "State" means the State of South Carolina.
- ee. "Structural integrity" means the ability of a unit to withstand physical forces exerted upon designed components, appurtenances, and containment structures (e.g., liners, dikes) of the unit.
- ff. "Uppermost aquifer" means the geologic formation nearest the natural ground surface that is an aquifer, as well as, lower aquifers that are hydraulically interconnected with this aquifer within the facility's

property boundary.

gg. "Vertical expansion" means an expansion of an existing waste management unit above previously permitted elevations for the purposes of gaining additional capacity.

hh. "Waste management unit boundary" means a vertical surface located at the hydraulically downgradient limit of the unit. This vertical surface extends down into the uppermost aquifer.

258.3. Considerations of other Federal Laws. The owner or operator of a municipal solid waste landfill unit must comply with any other applicable Federal rules, laws, regulations, or other requirements.

258.4. - 258.9. [Reserved]

SUBPART B - LOCATION RESTRICTIONS

258.10. AIRPORT SAFETY

a. Owners or operators of new MSWLF units, existing MSWLF units, and lateral expansions that are located within ten thousand (10,000) feet (3,048 meters) of any airport runway end used by turbojet aircraft or within five thousand (5,000) feet (1,524 meters) of any airport runway end used by only piston-type aircraft must demonstrate that the units are designed and operated so that the MSWLF unit does not pose a bird hazard to aircraft.

b. Owners or operators proposing to site new MSWLF units and lateral expansions located within a five (5) mile radius of any airport runway end used by turbojet or piston-type aircraft must notify the affected airport and the Federal Aviation Administration (FAA).

c. The owner or operator must place the demonstration in paragraph a. of this section in the operating record and notify the Department that it has been placed in the operating record.

d. For purposes of this section:

(1) "Airport" means public-use airport open to the public without prior permission and without restrictions within the physical capacities of available facilities.

(2) "Bird hazard" means an increase in the likelihood of bird/aircraft collisions that may cause damage to the aircraft or injury to its occupants.

258.11. FLOODPLAINS

a. Owners or operators of new MSWLF units, existing MSWLF units, and lateral expansions located in 100-year floodplains must demonstrate that the unit will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human health and the environment. The owner or operator must place the demonstration in the operating record and notify the Department that it has been placed in the operating record.

b. For purposes of this section:

(1) "Floodplain" means the lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, that are inundated by the 100-year flood.

(2) "100-year flood" means a flood that has a 1-percent or greater chance of recurring in any given year or a flood of a magnitude equalled or exceeded once in one hundred (100) years on the average over a significantly long period.

(3) "Washout" means the carrying away of solid waste by waters of the base flood.

258.12. WETLANDS

a. New MSWLF units and lateral expansions shall not be located in wetlands, unless the owner or operator can make the following demonstrations to the Department:

(1) Where applicable under section 404 of the Clean Water Act, or other applicable State wetlands laws, the presumption that a practicable alternative to the proposed landfill is available which does not involve wetlands is clearly rebutted:

(2) The construction and operation of the MSWLF unit will not:

(a) Cause or contribute to violations of any applicable State water quality standard,

(b) Violate any applicable toxic effluent standard or prohibition under Section 307 of the Clean Water Act,

(c) Jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Endangered Species Act of 1973, and

(d) Violate any requirement under the Marine Protection, Research, and Sanctuaries Act of 1972 for the protection of a marine sanctuary;

(3) The MSWLF unit will not cause or contribute to significant degradation of wetlands. The owner/operator must demonstrate the integrity of the MSWLF unit and its ability to protect ecological resources by addressing the following factors:

(a) Erosion, stability, and migration potential of native wetland soils, muds and deposits used to support the MSWLF unit;

(b) Erosion, stability, and migration potential of dredged and fill materials used to support the MSWLF unit;

(c) The volume and chemical nature of the waste managed in the MSWLF unit;

(d) Impacts on fish, wildlife, and other aquatic resources and their habitat from release of the solid waste;

(e) The potential effects of catastrophic release of waste to the wetland and the resulting impacts on the environment; and

(f) Any additional factors, as necessary, to demonstrate that ecological resources in the wetland are sufficiently protected.

(4) To the extent required under section 404 of the Clean Water Act, or other applicable State wetlands laws, steps have been taken to attempt to achieve no net loss of wetlands (as defined by acreage and function) by first avoiding impacts to wetlands to the maximum extent practicable as required by paragraph a.(1) of this section, then minimizing unavoidable impacts to the maximum extent practicable, and finally offsetting remaining unavoidable wetland impacts through all appropriate and practicable compensatory mitigation actions (e.g., restoration of existing degraded wetlands or creation of man-made wetlands); and

(5) Sufficient information is available to make a reasonable determination with respect to these demonstrations.

b. For purposes of this section, wetlands means those areas that are defined in 40 CFR 232.2(r).

c. In lieu of the demonstration required by subsection (a) of this section, the applicant may submit proof that it has obtained the permits and/or authorizations required by all other state and federal laws and regulations applicable to the use of such wetlands.

258.13. FAULT AREAS

a. New MSWLF units and lateral expansions shall not be located within two hundred (200) feet (60 meters) of a fault that has had displacement in Holocene time unless the owner or operator demonstrates to the Department that an alternative setback distance of less than two hundred (200) feet (60 meters) will prevent damage to the structural integrity of the MSWLF unit and will be protective of human health and the environment.

b. For the purposes of this section:

(1) "Fault" means a fracture or a zone of fractures in any material along which strata on one side have been displaced with respect to that on the other side.

(2) "Displacement" means the relative movement of any two (2) sides of a fault measured in any direction.

(3) "Holocene" means the most recent epoch of the Quaternary period, extending from the end of the Pleistocene Epoch to the present.

258.14. SEISMIC IMPACT ZONES

a. New MSWLF units and lateral expansions shall not be located in seismic impact zones, unless the owner or operator demonstrates to the Department that all containment structures, including liners, leachate collection systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site. The owner or operator must place the demonstration in the operating record and notify the Department that it has been placed in the operating record.

b. For the purposes of this section:

(1) "Seismic impact zone" means an area with a ten (10) percent or greater probability that the maximum horizontal acceleration in lithified earth material, expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10g in two hundred fifty (250) years.

(2) "Maximum horizontal acceleration in lithified earth material" means the maximum expected horizontal acceleration depicted on a seismic hazard map, with a ninety (90) percent or greater probability that the acceleration will not be exceeded in two hundred fifty (250) years, or the maximum expected horizontal acceleration based on a site-specific seismic risk assessment.

(3) "Lithified earth material" means all rock, including all naturally occurring and naturally formed aggregates or masses of minerals or small particles of older rock that formed by crystallization of magma or by induration of loose sediments. This term does not include man-made materials, such as fill, concrete, and asphalt, or unconsolidated earth materials, soil, or regolith lying at or near the earth surface.

258.15. UNSTABLE AREAS

a. Owners or operators of new MSWLF units, existing MSWLF units, and lateral expansions located in an unstable area must demonstrate that engineering measures have been incorporated into the MSWLF unit's design to ensure that the integrity of the structural components of the MSWLF unit will not be disrupted. The owner or operator must place the demonstration in the operating record and notify the Department that it has been placed in the operating record. The owner or operator must consider the following factors, at a minimum, when determining whether an area is unstable:

- (1) On-site or local soil conditions that may result in significant differential settling;
- (2) On-site or local geologic or geomorphologic features; and
- (3) On-site or local human-made features or events (both surface and subsurface).

b. For purposes of this section:

(1) "Unstable area" means a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity of some or all of the landfill structural components responsible for preventing releases from a landfill. Unstable areas can include poor foundation conditions, areas susceptible to mass movements, and Karst terranes.

(2) "Structural components" means liners, leachate collection systems, final covers,

run-on/run-off systems, and any other component used in the construction and operation of the MSWLF that is necessary for protection of human health and the environment.

(3) "Poor foundation conditions" means those areas where features exist which indicate that a natural or man-induced event may result in inadequate foundation support for the structural components of an MSWLF unit.

(4) "Areas susceptible to mass movement" means those areas of influence (i.e., areas characterized as having an active or substantial possibility of mass movement) where the movement of earth material at, beneath, or adjacent to the MSWLF unit, because of natural or man-induced events, results in the downslope transport of soil and rock material by means of gravitational influence. Areas of mass movement include, but are not limited to, landslides, avalanches, debris slides and flows, soil fluctuation, block sliding, and rock fall.

(5) "Karst terranes" means areas where karst topography, with its characteristic surface and subterranean features, is developed as the result of dissolution of limestone, dolomite, or other soluble rock. Characteristic physiographic features present in karst terranes include, but are not limited to, sinkholes, sinking streams, caves, large springs, and blind valleys.

258.16. CLOSURE OF EXISTING MSWLFS

a. Existing MSWLF units that cannot make the demonstration specified in 258.10.a. pertaining to airports, 258.11.a. pertaining to floodplains, or 258.15.a. pertaining to unstable areas, must close by October 9, 1996, in accordance with 258.60. of this part and conduct post-closure activities in accordance with 258.61. of this part.

b. The deadline for closure required by paragraph (a) of this section may be extended up to two (2) years if the owner or operator demonstrates to the Department that:

- (1) There is no available alternative disposal capacity;
- (2) There is no immediate threat to human health and the environment.

258.17. HYDROGEOLOGIC CONSIDERATIONS

a. New MSWLF units and expansions of existing MSWLF units, except MSWLF disposal units designed and permitted prior to the effective date of these regulations, should be located in areas that can be demonstrated to have the characteristics listed below (258.17.a.(1), a.(2), a.(3), and a.(4)). The inability of a site to meet full compliance with these criteria may not necessarily make the site unsuitable, but the applicant has the burden to demonstrate to the satisfaction of the Department why variance from the criteria will not compromise protection to human health and the environment. If Department review finds the demonstration to be inadequate, the application may be denied.

(1) That the site is not located in an area where the hydrogeologic conditions allow the migration of groundwater in shallow geologic units, having little potential as an underground source of drinking water, into deeper units. At the disposal area, any release to the uppermost aquifer would remain in the

uppermost aquifer until discharge into the perennial stream nearest to the disposal area. The potentiometric head in the shallow portion of the uppermost aquifer should be equal to or lower than the potentiometric head in the deeper portion of the uppermost aquifer (i.e., a lateral or an upward hydraulic gradient should exist);

(2) That a minimum three (3) foot separation of naturally occurring material or an appropriate amount of equivalent engineered material can be maintained between the base of the constructed liner system and the high water table as it exists naturally;

(3) That a minimum ten (10) foot vertical separation of naturally occurring or engineered material can be maintained between the base of the constructed liner and bedrock; provided, however, the nature of the material and sufficient separation exists to provide for installation and operation of an effective groundwater monitoring system. The nature of the material making up this interval is subject to Department approval;

(4) That the unit is not located over an area where a stratum of limestone exhibiting secondary permeability with an average thickness of greater than five (5) feet, lies within fifty (50) feet of the base of the unit;

b. New MSWLF units and expansions of existing MSWLF units, except MSWLF disposal units designed and permitted prior to the effective date of these regulations, are prohibited in areas where the owner or operator cannot demonstrate to the satisfaction of the Department:

(1) That the MSWLF unit is not located in a manner that would result in the destruction of a perennial stream, within two hundred (200) feet of a perennial stream, within that portion of a drainage basin included in a two thousand five hundred (2500) foot radius on the upstream side of a public drinking water supply intake, and within that portion of a drainage basin which is within one thousand (1000) feet of a lake, pond, or reservoir used as a source of public drinking water supply; and,

(2) That the hydrogeologic properties of the site can be adequately characterized. The characterization shall include, but not be limited to, a detailed description of the geologic units below the site (including mineralogy, sedimentary structures, thickness, continuity, and structure), the hydraulic properties of each geologic unit (including secondary porosity and a discussion of variations noted across the site), hydraulic gradient, hydraulic conductivity, and direction and rate of groundwater flow within the uppermost aquifer system and all interconnected aquifers and confining units using a groundwater flow net. In addition, the relationship between the units below the site to locally and regionally recognized geologic and hydrogeologic units must be described.

c. New MSWLF units and expansions of existing MSWLF units shall not be located over class GA groundwater or over the recharge area for Class GA groundwater as designated by the Department, over a sole source aquifer, or over the recharge area for a sole source aquifer as designated by the Department.

d. All MSWLF facilities must demonstrate compliance with the groundwater monitoring requirements under Subpart E.

258.18. BUFFER ZONES

a. New MSWLF units and MSWLF expansions shall meet the following buffer zone requirements:

(1) Shall not be located within one hundred (100) feet of any property line not under control of the owner or operator.

(2) Shall not be located within two hundred (200) feet of any surface water body which holds visible water for greater than six (6) consecutive months, excluding ditches, sediment ponds, and other operational features on the site.

(3) Shall not be located within two hundred (200) feet of any residences, schools, hospitals and recreational park areas, existing at the time of permit application, or unless such features are included in the site design for a planned end-use.

(4) Shall not be located within the following distances from groundwater uses for human consumption that exist at the time of permit application:

(a) less than five hundred (500) feet hydraulically upgradient of the waste disposal unit;

(b) less than seven hundred fifty (750) feet hydraulically sidegradient of the waste disposal unit; or,

(c) any distance directly hydraulically downgradient from the waste disposal unit to the point of discharge for the uppermost aquifer flowing beneath the waste disposal unit.

258.19. [Reserved]

SUBPART C - OPERATING CRITERIA

258.20. PROCEDURES FOR EXCLUDING THE RECEIPT OF HAZARDOUS WASTE AND SPECIAL WASTE

a. Owners or operators of all MSWLF units must implement a program at the facility for detecting and preventing the disposal of regulated hazardous wastes as defined in the South Carolina Hazardous Waste Management Regulations R.61-79.261 and polychlorinated biphenyls (PCB) wastes as defined in RCRA Part 761. This program must include, at a minimum:

(1) Random inspections of incoming loads unless the owner or operator takes other steps to ensure that incoming loads do not contain regulated hazardous wastes or PCB wastes;

(2) Records of any inspections;

(3) Training of facility personnel to recognize regulated hazardous waste and PCB wastes; and

(4) Notification of the Department if a regulated hazardous waste or PCB waste is discovered at

the facility.

b. For purposes of this section, "regulated hazardous waste" means a solid waste that is a hazardous waste, as defined in R.61-79.261.3, that is not excluded from regulation as a hazardous waste under R.61-79.261.4(b) or was not generated by a conditionally exempt small quantity generator as defined in R.61-79.261.5.

c. The owners and operators of all MSWLF units must implement a program at the facility for regulating the receipt of special wastes as described in section 44-96-390 of the South Carolina Solid Waste Policy and Management Act of 1991.

258.21. COVER MATERIAL REQUIREMENTS

a. Except as provided in paragraph (b) of this section, the owners or operators of all MSWLF units must cover disposed solid waste with six (6) inches of earthen material at the end of each operating day, or at more frequent intervals if necessary, to control disease vectors, fires, odors, blowing litter, and scavenging.

b. Alternative materials of an alternative thickness (other than at least six (6) inches of earthen material) may be approved by the Department on a case by case basis if the owner or operator demonstrates that the alternative material and thickness control disease vectors, fires, odors, blowing litter, and scavenging without presenting a threat to human health and the environment.

c. The municipal solid waste disposal facility shall have an adequate quantity of acceptable earth (or approved alternate) cover for routine operations. If the material does not originate on site, the permit application should indicate the calculated volume of material needed for cover, provide assurances that off-site quantities of cover material are available, the location of any earth stockpiles, and any provisions for saving topsoil for use as final cover. The earth cover material shall be easily workable and compactable, shall be free of large objects that would hinder compaction, and shall not contain organic matter conducive to the harborage and/or breeding of vectors or nuisance animals.

d. The Department may grant, with prior notice from the owner or operator, a temporary waiver not to exceed seven (7) days from the requirements of paragraphs a. and b. for emergency situations.

258.22. DISEASE VECTOR CONTROL

a. Owners or operators of all MSWLF units must prevent or control on-site populations of disease vectors using techniques appropriate for the protection of human health and the environment.

b. For purposes of this section, "disease vectors" means any rodents, flies, mosquitoes, or other animals, including insects, capable of transmitting disease to humans.

258.23. EXPLOSIVE GASES CONTROL

a. Owners or operators of all MSWLF units must ensure that:

(1) The concentration of methane gas generated by the facility does not exceed twenty-five (25) percent of the lower explosive limit for methane in facility structures (excluding gas control or recovery system components); and

(2) The concentration of methane gas does not exceed the lower explosive limit for methane at the facility property boundary.

b. Owners or operators of all MSWLF units must implement a routine methane monitoring program to ensure that the standards of paragraph a. of this section are met.

(1) The type and frequency of monitoring must be determined based on the following factors:

(a) Soil conditions;

(b) The hydrogeologic conditions surrounding the facility;

(c) The hydraulic conditions surrounding the facility; and

(d) The location of facility structures and property boundaries.

(2) The minimum frequency of monitoring shall be quarterly.

c. If methane gas levels exceeding the limits specified in paragraph a. of this section are detected, the owner or operator must:

(1) Immediately take all necessary steps to ensure protection of human health and notify the Department;

(2) Within seven (7) days of detection, place in the operating record the methane gas levels detected and a description of the steps taken to protect human health; and

(3) Within sixty (60) days of detection, implement a remediation plan for the methane gas releases, place a copy of the plan in the operating record, and notify the Department that the plan has been implemented. The plan shall describe the nature and extent of the problem and the proposed remedy.

d. For purposes of this section, "lower explosive limit" means the lowest percent by volume of a mixture of explosive gases in air that will propagate a flame at 25°C and atmospheric pressure.

258.24. AIR CRITERIA

a. Owners or operators of all MSWLFs must ensure that the units do not violate any applicable requirements developed under a State Implementation Plan (SIP) approved or promulgated by the Administrator pursuant to section 110 of the Clean Air Act, as amended.

b. Open burning of solid waste, except for the infrequent burning of agricultural wastes, silvicultural wastes, landclearing debris, diseased trees, or debris from emergency clean-up operations, all of which

require prior Department approval, is prohibited at all MSWLF units.

c. Blowing litter shall be controlled at the MSWLF. The entire MSWLF facility shall be policed as necessary to remove any accumulations of blown litter.

258.25. ACCESS REQUIREMENTS

a. Owners or operators of all MSWLF units must control public access and prevent unauthorized vehicular traffic and illegal dumping of wastes by using artificial barriers, natural barriers, or both, as appropriate to protect human health and the environment.

b. An all-weather access road shall be provided to the site.

c. Salvaging and scavenging shall not be allowed at the working face of a MSWLF at any time.

258.26. RUN-ON/RUN-OFF CONTROL SYSTEMS

a. Owners or operators of all MSWLF units must design, construct, and maintain:

(1) A run-on control system to prevent flow onto the active portion of the landfill during the peak discharge from a 25-year storm;

(2) A run-off control system from the active portion of the landfill to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

b. Run-off from the active portion of the landfill unit must be handled in accordance with 258.27.a. of this part.

258.27. SURFACE WATER REQUIREMENTS

a. MSWLF units shall not:

(1) Cause a discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the Clean Water Act, including, but not limited to, the National Pollutant Discharge Elimination System (NPDES) requirements, pursuant to section 402.

(2) Cause the discharge of a nonpoint source of pollution to waters of the United States, including wetlands, that violates any requirement of an area-wide or State-wide water quality management plan that has been approved under section 208 or 319 of the Clean Water Act, as amended.

258.28. LIQUIDS RESTRICTIONS

a. Bulk or noncontainerized liquid waste may not be placed in MSWLF units unless:

(1) the waste is household waste other than septic waste, or

(2) The waste is leachate or gas condensate derived from the MSWLF unit and the MSWLF unit, whether it is a new or existing MSWLF or lateral expansion, is designed with a liner and leachate collection system as described in 258.40 of this regulation. Leachate or gas condensate may only be disposed of in the MSWLF unit on a temporary basis not to exceed ninety (90) days with Departmental approval to allow for leachate and gas condensate management during emergency situations.

b. Containers holding liquid waste may not be placed in a MSWLF unit unless:

- (1) The container is a small container similar in size to that normally found in household waste;
- (2) The container is designed to hold liquids for use other than storage; or
- (3) The waste is household waste.

c. For purposes of this section:

(1) "Liquid waste" means any waste material that is determined to contain "free liquids" as defined by Method 9095 (Paint Filter Liquids Test), as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (EPA Pub. No. SW-846).

(2) "Gas condensate" means the liquid generated as a result of gas recovery process(es) at the MSWLF unit.

258.29. RECORDKEEPING REQUIREMENTS

a. The owner or operator of a MSWLF unit must record and retain near the facility in an operating record or in an alternative location approved by the Department the following information as it becomes available:

- (1) Any location restriction demonstration required under Subpart B of this part;
 - (2) Inspection records, training procedures, and notification procedures required in 258.20. of this part;
 - (3) Gas monitoring results from monitoring and any remediation plans required by 258.23. of this part;
 - (4) Any demonstration, certification, finding, monitoring, testing, or analytical data required by Subpart E of this part;
 - (5) Closure and post-closure care plans, updates to the closure and post-closure care plans, and any monitoring, testing, or analytical data as required by 258.60. and 258.61. of this part;
 - (6) Any cost estimates and financial assurance documentation required by Subpart G of this part;
- and

(7) The results of any environmental monitoring or testing performed in accordance with this regulation or the operating permit for the facility.

b. The owner/operator must notify the Department when the documents from paragraph (a) of this section have been placed or added to the operating record, and all information contained in the operating record must be furnished upon request to the Department or be made available at all reasonable times for inspection by the Department.

c. The owner/operator of a MSWLF unit must record in an operating record, information concerning the source or type (e.g. residential route, commercial, industrial, transfer station identity, special); weight (tons); county and State of origin of each load of waste delivered to the facility. A summary of this information must be submitted to the Department no later than October 15 of each year, for the previous fiscal year, on a form approved by the Department.

d. The Department can set alternative schedules for recordkeeping and notification requirements as specified in paragraphs a. and b. of this section, except for the notification requirements in 258.10.b. and 258.55.i.(1)(d).

258.30. SCALE INSTALLATION

a. Each owner or operator of a municipal solid waste landfill shall install and/or maintain scales capable of accurately determining the weight of incoming waste streams. Existing facilities which can demonstrate a legitimate financial hardship may be exempted from the requirement to install scales, and use a volumetric equivalent of five hundred (500) pounds per cubic yard for estimating tonnages.

258.31. EQUIPMENT

a. The following equipment may be required to ensure adequate operation of the MSWLF:

(1) Equipment or adequate contractual arrangements for equipment sufficient for excavating, earth moving, spreading, compacting and covering operations;

(2) Sufficient reserve equipment, or arrangements to provide alternate equipment within twenty-four (24) hours following equipment breakdown; and,

(3) Equipment to extinguish fires or arrangements to provide for fire protection.

258.32. SUPERVISION AND INSPECTION

a. Supervision of the operation of the MSWLF shall be the responsibility of a qualified individual who has experience in the operation of a MSWLF, and has completed operator training courses as required by code section 44-96-460.

b. Routine inspection and evaluation of landfill operations will be made by a representative of the Department. A notice of any deficiencies, together with any recommendations for their correction, will be provided to the owner or local government responsible for the operation of the MSWLF.

c. Inspection of the completed MSWLF shall be made by a representative of the Department. Any necessary corrective work shall be performed before the landfill project is accepted as completed.

258.33. LEACHATE HANDLING AGREEMENT

a. Either a legal document (contract, local permit, etc.) certifying acceptance of leachate by the operator of a wastewater treatment facility for the discharge of leachate to that facility, or a state pollutant discharge elimination system permit shall be obtained prior to initial receipt of waste at the facility.

258.34. LEACHATE CONTROL

a. The owner or operator of the MSWLF unit shall use its best efforts to ensure that the leachate head above the liner system does not exceed one (1) foot, except for brief periods not to exceed one (1) week, due to circumstances beyond the immediate control of the owner or operator.

258.35. - 258.39. [Reserved]

SUBPART D -- DESIGN CRITERIA

258.40. DESIGN CRITERIA

a. New MSWLF units and lateral expansions shall be constructed:

(1) In accordance with a design approved by the Department. The design must ensure that the concentration values listed in Table 1 of this section will not be exceeded in the uppermost aquifer at the relevant point of compliance, as specified by the Department under paragraph (i) of this section, or

(2) With a composite liner, as defined in paragraph b. of this section and a leachate collection system that is designed and constructed to maintain less than a one (1) foot depth of leachate over the liner, except in sumps.

b. For purposes of this section, "composite liner" means a system consisting of two (2) components; the upper component must consist of a minimum 30-mil flexible membrane liner (FML), and the lower component must consist of at least a two (2) foot layer of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec. FML components consisting of High Density Polyethylene (HDPE) shall be at least 60-mil thick. The FML component must be installed in direct and uniform contact with the compacted soil component.

c. The leachate collection and removal system shall be designed and built to operate without clogging during the operational life of the site and post-closure maintenance period.

d. Filter layers shall be designed to prevent the migration of fine soil particles into a coarser grained material, and allow water or gases to freely enter a drainage medium (pipe or drainage blanket) without clogging.

e. The total thickness of the drainage and protective layers above the liner material shall be a minimum of two (2) feet thick, and shall be composed of material with a minimum hydraulic conductivity of 1×10^{-4} cm/sec.

f. All material used in the leachate collection and removal system of the landfill shall be designed to ensure that the hydraulic leachate head on the liner system does not exceed one (1) foot as a result of a 24-hour, 25-year storm event during the active life and post-closure period of the landfill facility.

g. A foundation analysis shall be performed to determine the structural integrity of the subgrade to support the horizontal and vertical stresses and overlying facility components.

(1) The constructed landfill subgrade material shall minimize organic material and consist of on-site soils or select fill as approved by the Department.

(2) The landfill subgrade shall be graded in accordance with the requirements of the approved engineering plans, reports and specifications. The material shall be sufficiently dry and structurally sound to ensure that the first lift and all succeeding lifts of soil as an addition, if used, placed over the landfill subgrade can adequately be compacted to the design requirements.

h. When approving a design that complies with paragraph a.(1) of this section, the Department shall consider at least the following factors:

- (1) The hydrogeologic characteristics of the facility and surrounding land;
- (2) The climatic factors of the area; and
- (3) The volume and physical and chemical characteristics of the leachate.

i. The relevant point of compliance specified by the Department shall be no more than one hundred fifty (150) feet from the waste management unit boundary and shall be located on land owned by the owner of the MSWLF unit. In determining the relevant point of compliance, the Department shall consider at least the following factors:

- (1) The hydrogeologic characteristics of the facility and surrounding land;
- (2) The volume and physical and chemical characteristics of the leachate;
- (3) The quantity, quality, and direction of flow of groundwater;
- (4) The proximity and withdrawal rate of the groundwater users;
- (5) The availability of alternative drinking water supplies;

(6) The existing quality of the groundwater, including other sources of contamination and their cumulative impacts on the groundwater and whether groundwater is currently used or reasonably expected to be used for drinking water;

- (7) Public health, safety, and welfare effects; and
 - (8) Practicable capability of the owner or operator.
- j. One permanent survey benchmark of known elevation measured from a U.S. Geological Survey benchmark shall be established and maintained at the site. This benchmark will be the reference point for establishing horizontal and vertical elevation control.
- k. A separation of three (3) feet shall be maintained between the base of the constructed liner system and the high water table.
- l. The soil component of the liner system shall conform with the following:
- (1) The soil component of the liner system shall be placed on a slope of no less than two (2) percent to promote positive drainage across the liner surface and at a maximum slope not greater than thirty-three (33) percent to facilitate construction.
 - (2) Compaction shall be performed by properly controlling the moisture content, lift thickness and other necessary details to obtain satisfactory results.
- m. The flexible membrane liner material shall demonstrate a chemical and physical resistance to waste placement or leachate generated by the landfill. Documentation shall be submitted to ensure chemical compatibility of the geomembrane liner material chosen, or in absence of the appropriate documentation, chemical compatibility testing will be performed using a test method acceptable to the Department. Flexible membrane liners shall be installed in accordance with the requirements of the approved engineering plans, report, specifications and manufacturer's recommendations.
- n. All storm water ditches should have a minimum slope of .5% or a minimum permissible non-silting velocity of two (2) feet per second. When it is not possible to achieve minimum slopes and/or velocities, alternative system design and maintenance which ensures proper run-on and run-off control may be approved by the Department.
- o. For landfill expansions adjacent to existing MSWLFs, the Department may approve encroachment upon the existing landfill's side slopes only if a leachate barrier system is designed and constructed to eliminate leachate migration into the existing landfill. The expansion area shall be constructed in compliance with all applicable sections of this regulation.
- p. A construction certification report shall be submitted to the Department within forty-five (45) days after the completion of landfill construction by an engineer other than the design engineer, registered in the state of South Carolina. This report shall include at a minimum, the information prepared in accordance with the application requirements. In addition, the construction certification report shall contain as-built drawings prepared and sealed by a land surveyor registered in South Carolina noting any deviations from the approved engineering plans. The construction certification report must include a comprehensive narrative by the engineer.

q. The Department may, on a case by case basis, approve other landfill designs, provided there is adequate information to demonstrate that the proposed design meets or exceeds the environmental and public health protection standards outlined in Subparts B, D and E of this regulation.

SUBPART E -- GROUNDWATER MONITORING AND CORRECTIVE ACTION

258.50. APPLICABILITY

a. The requirements in this part apply to all MSWLF units, except as provided in paragraph b. of this section.

b. Groundwater monitoring requirements under 258.51. through 258.55. of this regulation may be modified by the Department for a MSWLF unit if the owner or operator can demonstrate that there is no potential for migration of hazardous constituents from that MSWLF unit to the uppermost aquifer (as defined in 258.2.) during the active life of the unit and the post-closure care period. This demonstration must be certified by a qualified groundwater scientist and approved by the Department, and must be based upon:

(1) Site-specific field collected measurements, sampling, and analysis of physical, chemical, and biological processes affecting contaminant fate and transport, and

(2) Contaminant fate and transport predictions that maximize contaminant migration and consider impacts on human health and environment.

c. Owners and operators of MSWLF units must comply with the groundwater monitoring requirements of this part according to the following schedule:

(1) All existing MSWLF units and lateral expansions must be in compliance with the groundwater monitoring requirements specified in 258.51. - 258.55. by October 9, 1994;

(2) New MSWLF units must be in compliance with the groundwater monitoring requirements specified in 258.51. - 258.55. before waste can be placed in the unit.

d. The Department may specify an alternative schedule for the owners or operators of existing MSWLF units to comply with the groundwater monitoring requirements specified in 258.51. - 258.55. The following factors should be considered in determining potential risk:

(1) Proximity of human and environmental receptors;

(2) Design of the MSWLF unit;

(3) Age of the MSWLF unit;

(4) The size of the MSWLF unit;

(5) Types and quantities of wastes disposed including sewage sludge; and

(6) Resource value of the underlying aquifer, including:

(a) Current and future uses;

(b) Proximity and withdrawal rate of users; and

(c) Groundwater quality and quantity.

e. Once established at a MSWLF unit, groundwater monitoring shall be conducted throughout the active life and post-closure care period of that MSWLF unit as specified in 258.61.

f. For the purposes of this subpart, a qualified groundwater scientist is a scientist or engineer who has received a baccalaureate or post-graduate degree in the natural sciences or engineering and has sufficient training and experience in groundwater hydrology and related fields as may be demonstrated by State registration, professional Certifications, or completion of accredited university programs that enable that individual to make sound professional judgements regarding groundwater monitoring, contaminant fate and transport, and corrective action.

g. The Department may establish alternative schedules for demonstrating compliance with the various sections of this Subpart on a case by case basis, provided sufficient technical rationale is provided to the Department to justify the alternate compliance schedule.

258.51 GROUNDWATER MONITORING SYSTEMS

a. A groundwater monitoring system must be installed that consists of a sufficient number of wells, installed at appropriate locations and depths, to yield representative groundwater samples from the uppermost aquifer (as defined in 258.2.) that:

(1) Represent the quality of background groundwater that has not been affected by leakage from a unit. A determination of background quality may include sampling of wells that are not hydraulically upgradient of the waste management area where:

(a) Hydrogeologic conditions do not allow the owner or operator to determine what wells are hydraulically upgradient; or

(b) Sampling at other wells will provide an indication of background groundwater quality that is as representative or more representative than that provided by the upgradient wells; and

(2) Represent the quality of groundwater passing the relevant point of compliance approved by the Department under 258.40.i. The downgradient monitoring system must be installed between the relevant point of compliance specified by the Department under 258.40.i. and the actual disposal area, and shall ensure detection of any groundwater contamination in the uppermost aquifer. When physical obstacles preclude installation of groundwater monitoring wells at the relevant point of compliance at existing units, the downgradient monitoring system may be installed at the closest practicable distance hydraulically

downgradient from the relevant point of compliance specified by the Department under 258.40.i. that ensure detection of groundwater contamination in the uppermost aquifer.

b. The Department may approve a multi-unit groundwater monitoring system instead of separate groundwater monitoring systems for each MSWLF unit when the facility has several units, provided the multi-unit groundwater monitoring system meets the requirement of 258.51.a. and will be as protective of human health and the environment as individual monitoring systems for each MSWLF unit, based on the following factors:

- (1) Number, spacing, and orientation of the MSWLF units;
- (2) Hydrogeologic setting;
- (3) Site history;
- (4) Engineering design of the MSWLF units, and
- (5) Type of waste accepted at the MSWLF units.

c. Monitoring wells must be approved by the Department and constructed, at a minimum, to the standards established in the South Carolina Well Standards and Regulations R. 61-71.11.

(1) The owner or operator must notify the Department that the design, installation, development, and decommission of any monitoring wells, piezometers and other measurement, sampling, and analytical devices documentation has been placed in the operating record; and

(2) The monitoring wells, piezometers, and other measurement, sampling, and analytical devices must be operated and maintained so that they perform to design specifications throughout the life of the monitoring program.

d. The number, spacing, and depths of monitoring systems shall be:

(1) Determined based upon site-specific technical information that must include thorough characterization of:

(a) Aquifer thickness, groundwater flow rate, groundwater flow direction including seasonal and temporal fluctuations in groundwater flow, the information required by 258.17.; and

(b) Saturated and unsaturated geologic units and fill materials overlying the uppermost aquifer, materials comprising the uppermost aquifer, and materials comprising the confining unit defining the lower boundary of the uppermost aquifer; including, but not limited to: thicknesses, stratigraphy, lithology, hydraulic conductivities, porosities and effective porosities.

(2) Certified by a qualified groundwater scientist and approved by the Department. Within fourteen (14) days of this certification, the owner or operator must notify the Department that the certification has been placed in the operating record.

258.52. [Reserved]

258.53. GROUNDWATER SAMPLING AND ANALYSIS REQUIREMENTS

a. The groundwater monitoring program must include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide an accurate representation of groundwater quality at the background and downgradient wells installed in compliance with 258.51.a. of this part. The owner or operator must submit to the Department for review and approval, the sampling and analysis procedures and protocols to be used at the facility. After approval by the Department, documentation must be placed in the operating record and the program must include procedures and techniques for:

- (1) Sample collection;
- (2) Sample preservation and shipment;
- (3) Analytical procedures;
- (4) Chain of custody control; and
- (5) Quality assurance and quality control.

b. The groundwater monitoring program must include sampling and analytical methods that are appropriate for groundwater sampling and that accurately measure hazardous constituents and other monitoring parameters in groundwater samples. Detection limits for those parameters that have a Maximum Contaminant Level (MCL) that has been promulgated under section 1412 of the Safe Drinking Water Act (codified) under 40 CFR part 141, shall be, at a minimum, below the established MCL. Groundwater samples shall not be field-filtered prior to laboratory analysis.

c. The sampling procedures and frequency must be protective of human health and the environment.

d. Groundwater elevations must be measured in each well prior to purging, each time groundwater is sampled. The owner or operator must determine the rate and direction of groundwater flow each time groundwater is sampled. Groundwater elevations in wells which monitor the same waste management area must be measured on the same day to avoid temporal variations in groundwater flow which could preclude an accurate determination of groundwater flow rate and direction.

e. The owner or operator must establish background groundwater quality in a hydraulically upgradient or background well(s) for each of the metals or constituents required in the particular groundwater monitoring program that applies to the MSWLF unit, as determined under 258.54.a., or 258.55.a. of this part. Background groundwater quality may be established at wells that are not located hydraulically upgradient from the MSWLF unit if it meets the requirements of 258.51.a.(1). In order to establish background groundwater quality in a reasonable period of time, pursuant to 258.53.i(1) and 258.53.i(2), the owner or operator must collect and analyze a minimum of four (4) independent groundwater samples from each compliance and each background well prior to the end of the first year of operation. The Department may, on a case by case basis, approve an alternate subset of wells to be sampled for the establishment of background groundwater quality. The alternate subset of wells will consist of a minimum

of Four (4) wells, or the total number of wells monitoring the unit, whichever is least, and will include all background well(s). This sampling and analysis must be accomplished in a manner consistent with the requirements of 258.53.f. Pursuant to 258.51.a(1), the above samples must represent the quality of background groundwater that has not been affected by leakage from a unit.

f. The number of samples collected to establish groundwater quality data must be consistent with the appropriate statistical procedures determined pursuant to paragraph g. of this section. The sampling procedures shall be those specified under 258.54.b. for detection monitoring, 258.55.b. and d. for assessment monitoring, and 258.56.b. of corrective action.

g. The owner or operator must specify in the operating record one of the following statistical methods to be used in evaluating groundwater monitoring data for each metal or other hazardous constituent requiring statistical analysis. The statistical test chosen shall be conducted for each parameter in each well, every time samples are collected.

(1) A parametric analysis of variance (ANOVA) followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's mean and the background mean levels for each constituent.

(2) An analysis of variance (ANOVA) based on ranks followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's median and the background median levels for each constituent.

(3) A tolerance or prediction interval procedure in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit.

(4) A control chart approach that gives control limits for each constituent.

(5) Another statistical test method that meets the performance standards of 258.53.h. The owner or operator must place a justification for this alternative in the operating record and obtain approval from the Department for the use of this alternative test. The justification must demonstrate that the alternative method meets the performance standards of 258.53.h.

h. Any statistical method chosen under 258.53.g. shall comply with the following performance standards, as appropriate:

(1) The statistical method used to evaluate groundwater monitoring data shall be appropriate for the distribution of chemical parameters or hazardous constituents. If the distribution of the chemical parameters or hazardous constituents is shown by the owner or operator to be inappropriate for a normal theory test, then the data should be transformed or a distribution-free theory test should be used. If the distributions for the constituents differ, more than one statistical method may be needed.

(2) If an individual well comparison procedure is used to compare an individual compliance well

constituent concentration with background constituent concentrations or a ground-water protection standard, the test shall be done at a Type I error level no less than 0.01 for each testing period. If a multiple comparisons procedure is used, the Type I experiment wise error rate for each testing period shall be no less than 0.05; however, the Type I error of no less than 0.01 for individual well comparisons must be maintained. This performance standard does not apply to tolerance intervals, prediction intervals, or control charts.

(3) If a control chart approach is used to evaluate groundwater monitoring data, the specific type of control chart and its associated parameter values shall be protective of human health and the environment. The parameters shall be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.

(4) If a tolerance interval or a predictional interval is used to evaluate groundwater monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval must contain, shall be protective of human health and the environment. These parameters shall be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.

(5) The statistical method shall account for data below the limit of detection with one or more statistical procedures that are protective of human health and the environment. Any practical quantitation limit (pql) that is used in the statistical method shall be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility.

(6) If necessary, the statistical method shall include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.

i. The owner or operator must determine whether or not there is a statistically significant increase over background values for each parameter or constituent required in the particular groundwater monitoring program that applies to the MSWLF unit, as determined under 258.54.a. or 258.55.a. of this part.

(1) In determining whether a statistically significant increase has occurred, the owner or operator must compare the groundwater quality of each parameter or constituent at each monitoring well designated pursuant to 258.51.a.(2) to the background value of that constituent, according to the statistical procedures and performance standards specified under paragraphs g. and h. of this section.

(2) Within a reasonable period of time after completing sampling and analysis, the owner or operator must determine whether there has been a statistically significant increase over background for each metal or other hazardous constituent requiring statistical analysis at each monitoring well.

258.54. DETECTION MONITORING PROGRAM

a. Detection monitoring is required at MSWLF units at all groundwater monitoring wells defined under 258.51.a.(1) and a.(2) of this part. At a minimum, a detection monitoring program must include the monitoring for the constituents listed in appendix I of this part.

(1) The Department may delete any of the appendix I monitoring parameters for a MSWLF unit if it can be shown that the deleted constituent(s) are not reasonably expected to be contained in or derived from the waste contained in the unit.

b. The monitoring frequency for all constituents listed in appendix I to this part shall be at least semiannual during the active life of the facility (including closure) and the post-closure period. At least one sample from each well (background and downgradient) must be collected and analyzed during each sampling event.

c. The Department may specify an appropriate alternative frequency for repeated sampling and analysis for appendix I constituents during the active life (including closure) and the post-closure care period. The alternative frequency during the active life (including closure) shall be no less than semiannual. The alternative frequency shall be based on consideration of the following factors:

- (1) Lithology of the aquifer and unsaturated zone;
- (2) Hydraulic conductivity of the aquifer and unsaturated zone;
- (3) Groundwater flow rates;
- (4) Minimum distance between upgradient edge of the MSWLF unit and downgradient monitoring well screen (minimum distance of travel); and
- (5) Resource value of the aquifer.

d. If the owner or operator determines, pursuant to 258.53.g. of this part, that there is a statistically significant increase over background for one or more of the metals listed in appendix I to this part, or above the MCL or pql, as applicable, for any volatile organic compound (VOC) listed in appendix I at any monitoring well at the boundary specified under 258.51.a.(2), the owner or operator:

- (1) Must, within fourteen (14) days of this finding, notify the Department;
- (2) Must, within fourteen (14) days of this finding, place a notice in the operating record indicating which constituents have shown statistically significant changes from background levels;
- (3) Must, within thirty (30) days of this finding, resample the monitoring well(s) in question for appendix I to determine the validity of the data; and
- (4) If the data are validated by resampling, must establish an assessment monitoring program meeting the requirements of 258.55. of this part within ninety (90) days except as provided for in paragraph (d)(5) of this section.
- (5) The owner/operator may demonstrate that a source other than a MSWLF unit caused the contamination or that the statistically significant increase (SSI) resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. A report documenting this demonstration must be certified by a qualified groundwater scientist and approved by the Department and be placed in

the operating record. If a successful demonstration is made and documented, the owner or operator may continue detection monitoring as specified in this section. If, after ninety (90) days, a successful demonstration is not made, the owner or operator must initiate an assessment monitoring program as required in 258.55.

e. The owner/operator shall submit to the Department on or before the anniversary date of issuance of the permit, an annual report containing all of the analytical and statistical analysis performed at the site for the previous year as a result of the requirements of Subpart E. The annual report shall contain the following:

(1) the results of all analytical testing performed at the site during the previous year, and any applicable data concerning sampling and analysis of monitoring wells at the site;

(2) a determination of the technical sufficiency of the monitoring well network in detecting a release from the facility as required by 258.51.;

(3) the determination of groundwater elevations, groundwater flow directions and groundwater flow rates as specified in 258.53.d. Groundwater flow directions shall be based upon interpretation of a potentiometric map prepared utilizing the groundwater elevations measured at the site; and,

(4) a summary of the results of the statistical analysis performed in accordance with 258.53.g. and 258.53.h.

f. The results of all chemical analysis of groundwater samples taken during routine monitoring shall be submitted to the Department within sixty (60) days of sample collection. On sampling events where an annual report is to be submitted to the Department, the annual report shall satisfy this requirement.

258.55. ASSESSMENT MONITORING PROGRAM

a. Assessment monitoring is required whenever a statistically significant increase over background has been detected and validated, in accordance with 258.54.d, for one or more of the metals listed in appendix I, or above the MCL or pql, as applicable, for any volatile organic compound (VOC) listed in appendix I, unless a successful demonstration has been made in accordance with section 258.54.d.(5).

b. Within ninety (90) days of triggering an assessment monitoring program, and annually thereafter, the owner or operator must sample and analyze the groundwater for all constituents identified in appendix II of this part. A minimum of one sample from each downgradient well must be collected and analyzed during each sampling event. For any constituent detected in the downgradient wells as the result of the complete appendix II analysis, a minimum of four (4) independent samples from each well (background and downgradient) must be collected and analyzed to establish background for the new constituents.

c. The Department may approve an appropriate subset of wells to be sampled and analyzed for appendix II constituents during assessment monitoring, provided the owner/operator provides sufficient technical rationale for the subset of wells. The Department may delete any of the appendix II monitoring parameters for a MSWLF unit if it can be shown that the removed constituents are not reasonably expected to be in or derived from the waste contained in the unit.

d. The Department may allow an appropriate alternate frequency for repeated sampling and analysis for the full set of appendix II constituents required by 258.55.b. of this part, during the active life (including closure) and post-closure care of the unit considering the following factors:

- (1) Lithology of the aquifer and unsaturated zone;
- (2) Hydraulic conductivity of the aquifer and unsaturated zone;
- (3) Groundwater flow rates;
- (4) Minimum distance between upgradient edge of the MSWLF unit and downgradient monitoring well screen (minimum distance of travel);
- (5) Resource value of the aquifer; and
- (6) Nature (fate and transport) of any constituents detected in response to this section.

e. After obtaining the results from the initial or subsequent sampling events required in paragraph b. of this section, the owner or operator must:

- (1) Within fourteen (14) days, place a notice in the operating record identifying the appendix II constituents that have been detected and notify the Department that this notice has been placed in the operating record;

- (2) Within ninety (90) days, and on at least a semiannual basis thereafter, resample all wells specified by 258.51.a. to this part, conduct analyses for all constituents in appendix I to this part and for those constituents in appendix II to this part that are detected in response to paragraph (b) of this section, and record their concentrations in the facility operating record. At least one sample from each well (background and downgradient) must be collected and analyzed during these sampling events.

- (3) Establish background concentrations for any constituents detected pursuant to paragraphs b., c., d. or e.(2) of this section; and

- (4) Establish groundwater protection standards for all constituents detected pursuant to paragraph b. or e. of this section. The groundwater protection standards shall be established in accordance with paragraphs j. or k. of this section.

f. The Department may specify an alternative monitoring frequency during the active life (including closure) and the post closure period for the constituents referred to in this paragraph. The alternative frequency for appendix II constituents during the active life (including closure) shall be no less than annual. The alternative frequency shall be based on consideration of the factors specified in paragraph (d) of this section;

g. If the concentrations of all appendix II constituents are shown to be at or below background values, using the statistical procedures in 258.53.g., for two consecutive sampling events, the owner or operator may request approval from the Department to return to detection monitoring.

h. If the concentrations of any appendix II constituents are above background values, but all concentrations are below the groundwater protection standard established under paragraphs j. or k. of this section, using the statistical procedures in 258.53.g., the owner or operator must continue assessment monitoring in accordance with this section.

i. If one or more appendix II constituents are detected at or above the groundwater protection standard established under paragraphs j. or k. of this section in any sampling event, the owner or operator must, within fourteen (14) days of this finding, place a notice in the operating record identifying the appendix II constituents that have exceeded the groundwater protection standard and notify the Department and all appropriate local government officials that the notice has been placed in the operating record. The owner or operator also:

(1)(a) Must submit to the Department within sixty (60) days of this finding, a groundwater quality assessment plan for characterizing the nature and extent of the release.

(b) Upon approval of the groundwater quality assessment plan, must characterize the nature and extent of the release by installing additional monitoring wells as necessary;

(c) Must install at least one additional monitoring well at the facility boundary in the direction of contaminant migration and sample this well in accordance with 258.55.d.(2);

(d) Must notify all persons who own the land or reside on the land that directly overlies any part of the plume of contamination if contaminants have migrated off-site if indicated by sampling of wells in accordance with 258.55.i.(1); and

(e) Must initiate an assessment of corrective measures as required by 255.56. of this part within ninety (90) days; or

(2) May demonstrate that a source other than a MSWLF unit caused the contamination, or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. A report documenting this demonstration must be certified by a qualified groundwater scientist and approved by the Department and placed in the operating record. If a successful demonstration is made the owner or operator must continue monitoring in accordance with the assessment monitoring program pursuant to 258.55., and may return to detection monitoring if the appendix II constituents are at or below background as specified in 258.55.g. Until a successful demonstration is made, the owner or operator must comply with 258.55.i. including initiating an assessment of corrective measures.

j. The owner or operator must establish a groundwater protection standard for each appendix II constituent detected in the groundwater. The groundwater protection standard shall be:

(1) For constituents for which a maximum contaminant level (MCL) has been promulgated under section 1412 of the Safe Drinking Water Act (codified) under 40 CFR part 141, the MCL for that constituent;

(2) For constituents for which MCLs have not been promulgated, the background concentration

for the constituent established from wells in accordance with 258.51.a.(1); or

(3) For constituents for which the background level is higher than the MCL identified under subparagraph j.(1) of this section or health based levels identified under 258.55.k.(1), the background concentration.

k. The Department may establish an alternative groundwater protection standard for constituents for which MCLs have not been established. These groundwater protection standards shall be appropriate health based levels that satisfy the following criteria:

(1) The level is derived in a manner consistent with Federal Environmental Protection Agency (EPA) guidelines for assessing the health risks of environmental pollutants (51 FR 33992, 34006, 34014, 34028, September 24, 1986);

(2) The level is based on scientifically valid studies conducted in accordance with the Toxic Substances Control Act Good Laboratory Practice Standards (40 CFR part 792) or equivalent;

(3) For carcinogens, the level represents a concentration associated with an excess lifetime cancer risk level (due to continuous lifetime exposure) with the 1×10^{-4} to 1×10^{-6} range; and

(4) For systemic toxicants, the level represents a concentration to which the human population (including sensitive subgroups) could be exposed to on a daily basis that is likely to be without appreciable risk of deleterious effects during a lifetime. For purposes of this subpart, systemic toxicants include toxic chemicals that cause effects other than cancer or mutation.

l. In establishing groundwater protection standards under paragraph (k) of this section, the Department may consider the following:

(1) Multiple contaminants in the groundwater;

(2) Exposure threats to sensitive environmental receptors; and

(3) Other site-specific exposure or potential exposure to groundwater.

258.56. ASSESSMENT OF CORRECTIVE MEASURES

a. Within ninety (90) days of finding that any of the constituents listed in appendix II have been detected at a level exceeding the groundwater protection standards defined under 258.55.j. or k. of this part, the owner or operator must initiate an assessment of corrective measures. Such an assessment must be completed within a reasonable period of time, not to exceed one hundred eighty (180) days.

b. The owner or operator must continue to monitor in accordance with the assessment monitoring program as specified in 258.55.

c. The assessment shall include an analysis of the effectiveness of potential corrective measures in meeting all of the requirements and objectives of the remedy as described under 258.57., addressing at

least the following:

(1) The performance, reliability, ease of implementation, and potential impacts of appropriate potential remedies, including safety impacts, cross-media impacts, and control of exposure to any residual contamination;

(2) The time required to begin and complete the remedy;

(3) The costs of remedy implementation; and

(4) The institutional requirements such as Department or local permit requirements or other environmental or public health requirements that may substantially affect implementation of the remedy(s).

d. The owner or operator must discuss the results of the corrective measures assessment, prior to the selection of remedy, in a public meeting with interested and affected parties.

258.57. SELECTION OF REMEDY

a. Based on the results of the corrective measures assessment conducted under 258.56, the owner or operator must select a remedy that, at a minimum, meets the standards listed in paragraph (b) of this section. The owner or operator must notify the Department, within fourteen (14) days of selecting a remedy, and submit a report to the Department for review and approval that describes the selected remedy and how it meets the standards in paragraph (b) of this section.

b. Remedies must:

(1) Be protective of human health and the environment;

(2) Attain the groundwater protection standard as specified pursuant to 258.55(j) or (k);

(3) Control the source(s) of releases so as to reduce or eliminate, to the maximum extent practicable, further releases of appendix II constituents into the environment that may pose a threat to human health or the environment; and

(4) Comply with standards for management of wastes as specified in 258.58.d.

c. In selecting a remedy that meets the standards of 258.57.b., the owner or operator shall consider the following evaluation factors:

(1) The long- and short-term effectiveness and protectiveness of the potential remedy(s), along with the degree of certainty that the remedy will prove successful based on consideration of the following:

(a) Magnitude of reduction of existing risks;

(b) Magnitude of residual risks in terms of likelihood of further releases due to waste remaining following implementation of a remedy;

(c) The type and degree of long-term management required, including monitoring, operation, and maintenance;

(d) Short-term risks that might be posed to the community, workers, or the environment during implementation of such a remedy, including potential threats to human health and the environment associated with excavation, transportation, and redisposal or containment;

(e) Time until full protection is achieved;

(f) Potential for exposure of humans and environmental receptors to remaining wastes, considering the potential threat to human health and the environment associated with excavation, transportation, redisposal, or containment;

(g) Long-term reliability of the engineering and institutional controls; and

(h) Potential need for replacement of the remedy.

(2) The effectiveness of the remedy in controlling the source to reduce further releases based on consideration of the following factors:

(a) The extent to which containment practices will reduce further releases;

(b) The extent to which treatment technologies may be used.

(3) The ease or difficulty of implementing a potential remedy(s) based on consideration of the following types of factors:

(a) Degree of difficulty associated with constructing the technology;

(b) Expected operational reliability of the technologies;

(c) Need to coordinate with and obtain necessary approvals and permits from other agencies;

(d) Availability of necessary equipment and specialists; and

(e) Available capacity and location of needed treatment, storage, and disposal services.

(4) The degree to which community concerns are addressed by a potential remedy(s).

d. The owner or operator shall specify as part of the selected remedy a schedule(s) for initiating and completing remedial activities. Such a schedule must require the initiation of remedial activities within a reasonable period of time taking into consideration the factors set forth in paragraphs d. (1-8). The owner or operator must consider the following factors in determining the schedule of remedial activities:

(1) Extent and nature of contamination;

(2) Practical capabilities of remedial technologies in achieving compliance with groundwater protection standards established under 258.55.j. or k. and other objectives of the remedy;

(3) Availability of treatment or disposal capacity for wastes managed during implementation of the remedy;

(4) Desirability of utilizing technologies that are not currently available, but which may offer significant advantages over already available technologies in terms of effectiveness, reliability, safety, or ability to achieve remedial objectives;

(5) Potential risks to human health and the environment from exposure to contamination prior to completion of the remedy;

(6) Resource value of the aquifer including:

(a) Current and future uses;

(b) Proximity and withdrawal rate of users;

(c) Groundwater quantity and quality;

(d) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituent;

(e) The hydrogeologic characteristic of the facility and surrounding land;

(f) Groundwater removal and treatment costs; and

(g) The cost and availability of alternative water supplies.

(7) Practicable capability of the owner or operator.

(8) Other relevant factors.

e. The Department may determine that remediation of a release of an appendix II constituent from a MSWLF unit is not necessary if the owner or operator demonstrates to the Department that:

(1) The groundwater is additionally contaminated by substances that have originated from a source other than a MSWLF unit and those substances are present in concentrations such that cleanup of the release from the MSWLF unit would provide no significant reduction in risk to actual or potential receptors; or

(2) The constituent(s) is present in groundwater that:

(a) Is not currently or reasonably expected to be a source of drinking water; and

(b) Is not hydraulically connected with waters to which the hazardous constituents are migrating or are likely to migrate in a concentration(s) that would exceed the groundwater protection standards established under 258.55.j. or k.; or

(3) Remediation of the release(s) is technically impracticable; or

(4) Remediation results in unacceptable cross-media impacts.

f. A determination by the Department pursuant to paragraph (e) of this section shall not affect the authority of the Department to require the owner or operator to undertake source control measures or other measures that may be necessary to eliminate or minimize further releases to the groundwater, to prevent exposure to the groundwater, or to remediate the groundwater to concentrations that are technically practicable and significantly reduce threats to human health or the environment.

258.58. IMPLEMENTATION OF THE CORRECTIVE ACTION PROGRAM

a. Based on the schedule established under 258.57.d. for initiation and completion of remedial activities the owner/operator must:

(1) Establish and implement a corrective action groundwater monitoring program that:

(a) At a minimum, meet the requirements of an assessment monitoring program under 258.55.;

(b) Indicate the effectiveness of the corrective action remedy; and

(c) Demonstrate compliance with groundwater protection standard pursuant to paragraph (e) of this section.

(2) Implement the corrective action remedy selected under 258.57.; and

(3) Take any interim measures necessary to ensure the protection of human health and the environment. Interim measures should, to the greatest extent practicable, be consistent with the objectives of and contribute to the performance of any remedy that may be required pursuant to 258.57. The following factors must be considered by an owner or operator in determining whether interim measures are necessary:

(a) Time required to develop and implement a final remedy;

(b) Actual or potential exposure of nearby populations or environmental receptors to hazardous constituents;

(c) Actual or potential contamination of drinking water supplies or sensitive ecosystems;

(d) Further degradation of the groundwater that may occur if remedial action is not initiated expeditiously;

(e) Weather conditions that may cause hazardous constituents to migrate or be released;

(f) Risks of fire or explosion, or potential for exposure to hazardous constituents as a result of an accident or failure of a container or handling system; and

(g) Other situations that may pose threats to human health and the environment.

b. An owner or operator may determine, based on information developed after implementation of the remedy has begun or other information, that compliance with requirements of 258.57.b. are not being achieved through the remedy selected. In such cases, the owner or operator must implement other methods or techniques that could practicably achieve compliance with the requirements, unless the owner or operator makes the determination under 258.58.c.

c. If the owner or operator determines that compliance with requirements under 258.57.b. cannot be practically achieved with any currently available methods, the owner or operator must:

(1) Obtain certification of a qualified groundwater scientist and approval by the Department that compliance with requirements under 258.57.b. cannot be practically achieved with any currently available methods;

(2) Implement alternate measures to control exposure of humans or the environment to residual contamination, as necessary to protect human health and the environment; and

(3) Implement alternate measures for control of the sources of contamination, or for removal or decontamination of equipment, units, devices, or structures that are:

(a) Technically practicable; and

(b) Consistent with the overall objective of the remedy.

(4) Notify the Department within fourteen (14) days that a report justifying the alternative measures prior to implementing the alternative measures has been placed in the operating record.

d. All solid wastes that are managed pursuant to a remedy required under 258.57., or an interim measure required under 258.58.a.(3), shall be managed in a manner:

(1) That is protective of human health and the environment; and

(2) That complies with applicable RCRA requirements.

e. Remedies selected pursuant to 258.57. shall be considered complete when:

(1) The owner or operator complies with the groundwater protection standards established under 258.55.j. or k. at all points within the plume of contamination that lie beyond the groundwater monitoring well system established under 258.51.a.

(2) Compliance with the groundwater protection standards established under 258.55.j. or k. has been achieved by demonstrating that concentrations of appendix II constituents have not exceeded the groundwater protection standard(s) for a period of three (3) consecutive years using the statistical procedures and performance standards in 258.53.g. and h. The Department may specify an alternative length of time during which the owner or operator must demonstrate that concentrations of appendix II constituents have not exceeded the groundwater protection standard(s) taking into consideration:

- (a) Extent and concentration of the release(s);
- (b) Behavior characteristics of the hazardous constituents in the groundwater;
- (c) Accuracy of monitoring or modeling techniques, including any seasonal, meteorological, or other environmental variabilities that may affect the accuracy; and
- (d) Characteristics of the groundwater.

(3) All actions required to complete the remedy have been satisfied.

f. Upon completion of the remedy, the owner or operator must notify the Department within fourteen (14) days that a certification that the remedy has been completed in compliance with the requirements of 258.58.e. has been placed in the operating record. The certification must be signed by the owner or operator and by a qualified groundwater scientist and approved by the Department.

g. When, upon completion of the certification, the owner or operator determines that the corrective action remedy has been completed in accordance with the requirements under paragraph (e) of this section, the owner or operator shall be released from the requirements for financial assurance for corrective action under 258.73.

258.59. [Reserved]

SUBPART F -- CLOSURE AND POST-CLOSURE CARE

258.60. CLOSURE CRITERIA

a. Owners or operators of all MSWLF units must install a final cover system that is designed to minimize infiltration and erosion. The final cover system must be designed and constructed to:

(1) have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present, or a permeability no greater than 1×10^{-5} cm/sec, whichever is less, and

(2) minimize infiltration through the closed MSWLF by the use of an infiltration layer that contains a minimum eighteen (18) inches of earthen material, and

(3) minimize erosion of the final cover by the use of an erosion layer that contains a minimum one (1) foot of earthen material that is capable of sustaining native plant growth.

b. The Department may approve an alternative final cover design that includes:

(1) An infiltration layer that achieves an equivalent reduction in infiltration as the infiltration layer specified in paragraphs a.(1) and a.(2) of this section, and

(2) An erosion layer that provides equivalent protection from wind and water erosion as the erosion layer specified in a.(3) of this section.

c. The owner or operator must prepare a written closure plan that describes the steps necessary to close all MSWLF units at any point during their active life in accordance with the cover design requirements in 258.60.a. or b., as applicable. The closure plan, at a minimum, must include the following information:

(1) A description of the final cover, designed in accordance with 258.60.a. and the methods and procedures to be used to install the cover;

(2) An estimate of the largest area of the MSWLF unit ever requiring a final cover as required under 258.60.a. at any time during the active life;

(3) An estimate of the maximum inventory of wastes ever on-site over the active life of the landfill facility; and

(4) A schedule for completing all activities necessary to satisfy the closure criteria in 258.60.

d. The owner or operator must notify the Department that a closure plan has been prepared and placed in the operating record no later than the effective date of this part, or prior to permit issuance, whichever is later. The closure plan must be updated if any changes occur at the facility which require a deviation from the approved closure plan.

e. Prior to beginning closure of each MSWLF unit as specified in 258.60.f., an owner or operator must notify the Department that a notice of the intent to close the unit has been placed in the operating record.

f. The owner or operator must begin closure activities of each MSWLF unit no later than thirty (30) days after the date on which the MSWLF unit receives the known final receipt of wastes or, if the MSWLF unit has remaining capacity and there is a reasonable likelihood that the MSWLF unit will receive additional wastes, no later than one year after the most recent receipt of wastes. Extensions beyond the one-year deadline for beginning closure may be granted by the Department if the owner or operator demonstrates that the MSWLF unit has the capacity to receive additional wastes and the owner or operator has taken and will continue to take all steps necessary to prevent threats to human health and the environment from the unclosed MSWLF unit.

g. The owner or operator of all MSWLF units must complete closure activities of each MSWLF unit in accordance with the closure plan within one hundred eighty (180) days following the beginning of closure as specified in section 258.60.f. Extensions of the closure period may be granted by the Department if the owner or operator demonstrates that closure will, of necessity, take longer than one hundred eighty (180) days and they have taken and will continue to take all steps to prevent threats to human health and the

environment from the unclosed MSWLF unit.

h. Following closure of each MSWLF unit, the owner or operator must notify the Department that a certification, signed by a South Carolina registered professional engineer other than the design engineer, verifying that closure has been completed in accordance with the closure plan, has been placed in the operating record.

i. Following closure of all MSWLF units, the owner or operator must record a notation on the deed to the landfill facility property, or some other instrument that is normally examined during title search, and notify the Department that the notation has been recorded and a copy has been placed in the operating record.

(1) The notation on the deed must in perpetuity notify any potential purchaser of the property that:

(a) The land has been used as a landfill facility; and

(b) Its use is restricted under 258.61.c.(3).

j. The owner or operator may request permission from the Department to remove the notation from the deed if all wastes are removed from the facility.

k. All facilities constructed with liner systems in accordance with this regulation shall install a final cover system which consists, of at a minimum:

(1) a gas management layer or layers, or other gas management design, as necessary;

(2) eighteen (18) inches of soil with a maximum permeability of 1×10^{-5} centimeters per second, and capable of providing a suitable foundation for the flexible membrane liner specified in 258.60.k.(3);

(3) a 20-mil flexible membrane liner with a maximum permeability equal to or less than the bottom liner system, if HDPE is used as the FML, then a sixty (60) mil thickness is required;

(4) a drainage layer; and,

(5) a minimum of two (2) feet of soil capable of supporting native vegetation.

l. All MSWLF's closed utilizing a flexible membrane cover system shall be constructed to preclude precipitation migration into the landfill. All flexible membrane cover systems shall be constructed in accordance with the requirements of the approved engineering plans, reports, specifications and manufacturer's recommendations.

m. The erosion layer shall be designed to maintain vegetative growth over the landfill.

n. The final cover system shall be placed on a slope of no less than two (2) percent to promote positive drainage across the cover system surface and at a maximum slope not greater than thirty-three (33) percent to facilitate construction and prevent erosion.

o. The Department may, on a case by case basis, approve other landfill closure designs, provided there is adequate information to demonstrate that the proposed design meets or exceeds the environmental and public health protection standards outlined in Subparts B, D and E of this regulation.

258.61. POST-CLOSURE CARE REQUIREMENTS

a. Following closure of each MSWLF unit, the owner or operator must conduct post-closure care. Post-closure care must be conducted for a minimum thirty (30) years, except as provided under paragraph b. of this section, and consist of at least the following:

(1) Maintaining the integrity and effectiveness of any final cover, including making repairs to the cover as necessary to correct the effects of settlement, subsidence, erosion, or other events, and preventing run-on and run-off from eroding or otherwise damaging the final cover;

(2) Maintaining and operating the leachate collection system in accordance with the requirements in 258.40., if applicable. The Department may allow the owner or operator to stop managing leachate if the owner or operator demonstrates to the Departments satisfaction that leachate no longer poses a threat to human health and the environment;

(3) Monitoring the groundwater in accordance with the requirements of subpart E of this part and maintaining the groundwater monitoring system, if applicable; and

(4) Maintaining and operating the gas monitoring system in accordance with the requirements of 258.23.

b. The length of the post-closure care period may be:

(1) Increased by the Department if the Department determines that the lengthened period is necessary to protect human health and the environment.

(2) Decreased by the Department if the owner or operator can provide technical rationale that the decreased post-closure care period is sufficient to protect human health and the environment.

c. The owner or operator of all MSWLF units must prepare a written post-closure plan that includes, at a minimum, the following information:

(1) A description of the monitoring and maintenance activities required in 258.61.(a) for each MSWLF unit, and the frequency at which these activities will be performed;

(2) Name, address, and telephone number of the person or office to contact about the facility during the post-closure period; and

(3) A description of the planned uses of the property during the post-closure period. Post-closure use of the property shall not disturb the integrity of the final cover, liner(s), or any other components of the containment system, or the function of the monitoring systems unless necessary to comply with the

requirements in Part 258. The Department may approve any other disturbance of the containment system if the owner or operator demonstrates that disturbance of the final cover, liner or other component of the containment system, including any removal of waste, will not increase the potential threat to human health or the environment.

d. The owner or operator must notify the Department that a post-closure plan has been prepared and placed in the operating record no later than the effective date of this regulation, October 9, 1993, or prior to permit issuance, whichever is later. The post-closure plan must be updated if any changes occur at the facility which require a deviation from the approved post-closure plan.

e. Following completion of the post-closure care period for each MSWLF unit, the owner or operator must notify the Department that a certification, signed by a South Carolina registered professional engineer other than the design engineer, verifying that post-closure care has been completed in accordance with the post-closure plan, has been placed in the operating record.

258.62. - 258.69. [Reserved]

SUBPART G -- FINANCIAL ASSURANCE CRITERIA

258.70. APPLICABILITY AND EFFECTIVE DATE

a. The requirements of this section apply to owners and operators of all MSWLF units, except owners or operators who are State or Federal government entities whose debts and liabilities are the debts and liabilities of a State or the United States.

b. The requirements of this section are effective April 9, 1994.

258.71. FINANCIAL ASSURANCE FOR CLOSURE

a. The owner or operator must have a detailed written estimate, in current dollars, of the cost of hiring a third party to close the largest area of all MSWLF units ever requiring a final cover as required under 258.60 at any time during the active life in accordance with the closure plan. The owner or operator must notify the Department that the estimate has been placed in the operating record.

(1) The cost estimate must equal the cost of closing the largest area of all MSWLF units ever requiring a final cover at any time during the active life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan (see 258.60.c.(2) of this part).

(2) During the active life of the MSWLF unit, the owner or operator must annually adjust the closure cost estimate for inflation.

(3) The owner or operator must increase the closure cost estimate and the amount of financial assurance provided under paragraph b. of this section if changes to the closure plan or MSWLF unit conditions increase the maximum cost of closure at any time during the remaining active life.

(4) The owner or operator may reduce the closure cost estimate and the amount of financial

assurance provided under paragraph b. of this section if the cost estimate exceeds the maximum cost of closure at any time during the remaining life of the MSWLF unit. The owner or operator must notify the Department that the justification for the reduction of the closure cost estimate and the amount of financial assurance has been placed in the operating record.

b. The owner or operator of each MSWLF unit must establish financial assurance for closure of the MSWLF unit in compliance with 258.74. The owner or operator must provide continuous coverage for closure until released from financial assurance requirements by demonstrating compliance with 258.60.h. and i.

258.72. FINANCIAL ASSURANCE FOR POST-CLOSURE CARE

a. The owner or operator must have a detailed written estimate, in current dollars, of the cost of hiring a third party to conduct post-closure care for the MSWLF unit in compliance with the post-closure plan developed under 258.61. of this part. The post-closure cost estimate used to demonstrate financial assurance in paragraph b. of this section must account for the total costs of conducting post-closure care, including annual and periodic costs as described in the post-closure plan over the entire post-closure care period. The owner or operator must notify the Department that the estimate has been placed in the operating record.

(1) The cost estimate for post-closure care must be based on the most expensive costs of post-closure care during the post-closure care period.

(2) During the active life of the MSWLF unit and during the post-closure care period, the owner or operator must annually adjust the post-closure cost estimate for inflation.

(3) The owner or operator must increase the post-closure care cost estimate and the amount of financial assurance provided under paragraph b. of this section if changes in the post-closure plan or MSWLF unit conditions increase the maximum costs of post-closure care.

(4) The owner or operator may reduce the post-closure cost estimate and the amount of financial assurance provided under paragraph b. of this section if the cost estimate exceeds the maximum costs of post-closure care remaining over the post-closure care period. The owner or operator must notify the Department that the justification for the reduction of the post-closure cost estimate and the amount of financial assurance has been placed in the operating record.

b. The owner or operator of each MSWLF unit must establish, in a manner in accordance with 258.74., financial assurance for the costs of post-closure care as required under 258.61. of this part. The owner or operator must provide continuous coverage for post-closure care until released from financial assurance requirements for post-closure care by demonstrating compliance with 258.61.e..

258.73. FINANCIAL ASSURANCE FOR CORRECTIVE ACTION

a. An owner or operator of a MSWLF unit required to undertake a corrective action program under 258.58. of this part must have a detailed written estimate, in current dollars, of the cost of hiring a third party to perform the corrective action in accordance with the program required under 258.58. of this part.

The corrective action cost estimate must account for the total costs of corrective action activities as described in the corrective action plan for the entire corrective action period. The owner or operator must notify the Department that the estimate has been placed in the operating record.

(1) The owner or operator must annually adjust the estimate for inflation until the corrective action program is completed in accordance with 258.58.f. of this part.

(2) The owner or operator must increase the corrective action cost estimate and the amount of financial assurance provided under paragraph (b) of this section if changes in the corrective action program or MSWLF unit conditions increase the maximum costs of corrective action.

(3) The owner or operator may reduce the amount of the corrective action cost estimate and the amount of financial assurance provided under paragraph b. of this section if the cost estimate exceeds the maximum remaining costs of corrective action. The owner or operator must notify the Department that the justification for the reduction of the corrective action cost estimate and the amount of financial assurance has been placed in the operating record.

b. The owner or operator of each MSWLF unit required to undertake a corrective action program under 258.58. of this part must establish, in a manner in accordance with 258.74., financial assurance for the most recent corrective action program. The owner or operator must provide continuous coverage for corrective action until released from financial assurance requirements for corrective action by demonstrating compliance with 258.58.f. and g.

258.74. ALLOWABLE MECHANISMS

The mechanisms used to demonstrate financial assurance under this section must ensure that the funds necessary to meet the costs of closure, post-closure care, and corrective action for known releases will be available whenever they are needed. Owners and operators must choose from the options specified in paragraphs a. through j. of this section.

a. Trust Fund.

(1) An owner or operator may satisfy the requirements of this section by establishing a trust fund which conforms to the requirements of this paragraph. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency. A copy of the trust agreement must be placed in the facility's operating record.

(2) Payments into the trust fund must be made annually by the owner or operator over the term of the initial permit or over the remaining life of the MSWLF unit, whichever is shorter, in the case of a trust fund for closure or post-closure care, or over one-half of the estimated length of the corrective action program in the case of corrective action for known releases. This period is referred to as the pay-in period.

(3) For a trust fund used to demonstrate financial assurance for closure and post-closure care, the first payment into the fund must be at least equal to the current cost estimate for closure or post-closure care, except as provided in paragraph (j) of this section, divided by the number of years in the pay-in

period as defined in paragraph (a)(2) of this section. The amount of subsequent payments must be determined by the following formula:

$$\text{Next Payment} = \frac{\text{CE}-\text{CV}}{\text{Y}}$$

where CE is the current cost estimate for closure or post-closure care (updated for inflation or other changes), CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) For a trust fund used to demonstrate financial assurance for corrective action, the first payment into the trust fund must be at least equal to one-half of the current cost estimate for corrective action, except as provided in paragraph j. of this section, divided by the number of years in the corrective action pay-in period as defined in paragraph a.(2) of this section. The amount of subsequent payments must be determined by the following formula:

$$\text{Next Payment} = \frac{\text{RB}-\text{CV}}{\text{Y}}$$

where RB is the most recent estimate of the required trust fund balance for corrective action (i.e., the total costs that will be incurred during the second half of the corrective action period), CV is the current value of the trust fund, and Y is the number of years remaining on the pay-in period.

(5) The initial payment into the trust fund must be made before the initial receipt of waste or before the effective date of this section (April 9, 1994), whichever is later, in the case of closure and post-closure care, or no later than one hundred twenty (120) days after the corrective action remedy has been selected in accordance with the requirements of 258.58.

(6) If the owner or operator establishes a trust fund after having used one or more alternate mechanisms specified in this section, the initial payment into the trust fund must be at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to the specifications of this paragraph and 270.74.a. of this section, as applicable.

(7) The owner or operator, or other person authorized to conduct closure, post-closure care, or corrective action activities may request reimbursement from the trustee for these expenditures. Requests for reimbursement will be granted by the trustee only if sufficient funds are remaining in the trust fund to cover the remaining costs of closure, post-closure care, or corrective action, and if justification and documentation of the cost is placed in the operating record. The owner or operator must notify the Department that the documentation of the justification for reimbursement has been placed in the operating record and that reimbursement has been received.

(8) The trust fund may be terminated by the owner or operator only if the owner or operator substitutes alternate financial assurance as specified in this section or if he is no longer required to demonstrate financial responsibility in accordance with the requirements of 258.71.b., 258.72.b., or 258.73.b.

b. Surety Bond Guaranteeing Payment or Performance.

(1) An owner or operator may demonstrate financial assurance for closure or post-closure care by obtaining a payment or performance surety bond which conforms to the requirements of this paragraph. An owner or operator may demonstrate financial assurance for corrective action by obtaining a performance bond which conforms to the requirements of this paragraph. The bond must be effective before the initial receipt of waste or before the effective date of this section, (April 9, 1994), whichever is later, in the case of closure and post-closure care, or no later than one hundred twenty (120) days after the corrective action remedy has been selected in accordance with the requirements of 258.58. The owner or operator must notify the Department that a copy of the bond has been placed in the operating record. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The penal sum of the bond must be in an amount at least equal to the current closure, post-closure care or corrective action cost estimate, whichever is applicable, except as provided in 258.74.k.

(3) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(4) The owner or operator must establish a standby trust fund. The standby trust fund must meet the requirements of 258.74.a. except the requirements for initial payment and subsequent annual payments specified in 258.74.a.(2), (3), (4) and (5).

(5) Payments made under the terms of the bond will be deposited by the surety directly into the standby trust fund. Payments from the trust fund must be approved by the trustee.

(6) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner and operator and to the Department 120 days in advance of cancellation. If the surety cancels the bond, the owner or operator must obtain alternate financial assurance as specified in this section.

(7) The owner or operator may cancel the bond only if alternate financial assurance is substituted as specified in this section or if the owner or operator is no longer required to demonstrate financial responsibility in accordance with 258.71.b., 258.72.b. or 258.73.b.

c. Letter of Credit.

(1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit which conforms to the requirements of this paragraph. The letter of credit must be effective before the initial receipt of waste or before the effective date of this section, (April 9, 1994), whichever is later, in the case of closure and post-closure care, or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of 258.58. The owner or operator must notify the Department that a copy of the letter of credit has been placed in the operating record. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a Federal or State agency.

(2) A letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: name, and address of the facility, and the amount of funds assured, must be included with the letter of credit in the operating record.

(3) The letter of credit must be irrevocable and issued for a period of at least one (1) year in an amount at least equal to the current cost estimate for closure, post-closure care or corrective action, whichever is applicable, except as provided in 258.74.k. The letter of credit must provide that the expiration date will be automatically extended for a period of at least one year unless the issuing institution has canceled the letter of credit by sending notice of cancellation by certified mail to the owner and operator and to the Department one hundred twenty (120) days in advance of cancellation. If the letter of credit is canceled by the issuing institution, the owner or operator must obtain alternate financial assurance.

(4) The owner or operator may cancel the letter of credit only if alternate financial assurance is substituted as specified in this section or if the owner or operator is released from the requirements of this section in accordance with 258.71.b., 258.72.b. or 258.73.b.

d. Insurance.

(1) An owner or operator may demonstrate financial assurance for closure and post-closure care by obtaining insurance which conforms to the requirements of this paragraph. The insurance must be effective before the initial receipt of waste or before the effective date of this section, (April 9, 1994), whichever is later. At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States. The owner or operator must notify the Department that a copy of the insurance policy has been placed in the operating record.

(2) The closure or post-closure care insurance policy must guarantee that funds will be available to close the MSWLF unit whenever final closure occurs or to provide post-closure care for the MSWLF unit whenever the post-closure care period begins, whichever is applicable. The policy must also guarantee that once closure or post-closure care begins, the insurer will be responsible for the paying out of funds to the owner or operator or other person authorized to conduct closure or post-closure care, up to an amount equal to the face amount of the policy.

(3) The insurance policy must be issued for a face amount at least equal to the current cost estimate for closure or post-closure care, whichever is applicable, except as provided in 258.74.k. The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(4) An owner or operator, or any other person authorized to conduct closure or post-closure care, may receive reimbursements for closure or post-closure expenditures, whichever is applicable. Requests for reimbursement will be granted by the insurer only if the remaining value of the policy is sufficient to cover the remaining costs of closure or post-closure care, and if justification and documentation of the cost is placed in the operating record. The owner or operator must notify the Department that the documentation of the justification for reimbursement has been placed in the operating record and that

reimbursement has been received.

(5) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided that such consent is not unreasonably refused.

(6) The insurance policy must provide that the insurer may not cancel, terminate or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may cancel the policy by sending notice of cancellation by certified mail to the owner and operator and to the Department one hundred twenty (120) days in advance of cancellation. If the insurer cancels the policy, the owner or operator must obtain alternate financial assurance as specified in this section.

(7) For insurance policies providing coverage for post-closure care, commencing on the date that liability to make payments pursuant to the policy accrues, the insurer will thereafter annually increase the face amount of the policy. Such increase must be equivalent to the face amount of the policy, less any payments made, multiplied by an amount equivalent to eighty-five (85) percent of the most recent investment rate or of the equivalent coupon-issue yield announced by the U.S. Treasury for 26-week Treasury securities.

(8) The owner or operator may cancel the insurance policy only if alternate financial assurance is substituted as specified in this section or if the owner or operator is no longer required to demonstrate financial responsibility in accordance with the requirements of 258.71.b., 258.72.b. or 258.73.b.

e. Corporate Financial Test.

[reserved]

f. Local Government Financial Test.

[reserved]

g. Corporate Guarantee.

[Reserved]

h. Local Government Guarantee.

[Reserved]

i. State Approved Mechanism. An owner or operator may satisfy the requirements of this section by obtaining any other mechanism that meets the criteria specified in 258.74.1., and that is approved by the Department.

j. State Assumption of Responsibility. If the Department either assumes legal responsibility for an

owner or operator's compliance with the closure, post-closure care and/or corrective action requirements of this part, or assures that the funds will be available from State sources to cover the requirements, the owner or operator will be in compliance with the requirements of this section. Any State assumption of responsibility must meet the criteria specified in 258.74.1.

k. Use of Multiple Financial Mechanisms. An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. The mechanisms must be as specified in paragraphs a., b., c., d., e., f., g., h., i. and j. of this section, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current cost estimate for closure, post-closure care or corrective action, whichever is applicable. The financial test and a guarantee provided by a corporate parent, sibling, or grandparent may not be combined if the financial statements of the two firms are consolidated.

l. The language of the mechanisms listed in paragraphs a., b., c., d., e., f., g., h., i. and j. of this section must ensure that the instruments satisfy the following criteria:

(1) The financial assurance mechanisms must ensure that the amount of funds assured is sufficient to cover the costs of closure, post-closure care, and corrective action for known releases when needed;

(2) The financial assurance mechanisms must ensure that funds will be available in a timely fashion when needed;

(3) The financial assurance mechanisms must be obtained by the owner or operator by the effective date of these requirements or prior to the initial receipt of solid waste, whichever is later, in the case of closure and post-closure care, and no later than one hundred twenty (120) days after the corrective action remedy has been selected in accordance with the requirements of 258.58., until the owner or operator is released from the financial assurance requirements under 258.71., 258.72. and 258.73.

(4) The financial assurance mechanisms must be legally valid, binding, and enforceable under State and Federal law.

258.75. - 258.79. [Reserved]

SUBPART H

258.80. PERMIT APPLICATION REQUIREMENTS

a. Applications for a permit to construct and operate a new MSWLF, or a lateral expansion of an existing MSWLF shall contain at a minimum the following:

(1) A Landfill Siting Study.

(2) A Disclosure Statement.

(3) A Document Demonstrating compliance with applicable Solid Waste Management Plans.

(4) A completed Permit Application Form.

b. Upon receipt of written notice from the Department to the applicant that the issues contained in 258.80.a. have been satisfactorily addressed, and the site is determined to be suitable for the intended purpose, the following information shall be submitted to the Department.

- (1) Notification of initiation of the facility issues negotiation process.
- (2) Engineering Drawings that set forth the proposed landfill location, property boundaries, adjacent land uses and construction details.
- (3) Operation Plans that describe how the landfill will fulfill the requirements of protecting human health and the environment.
- (4) A Landscape Plan prepared to address adequate seeding or screening of the site.
- (5) An Engineering Report comprehensively describing the existing site conditions and an analysis of the landfill, including closure and post-closure criteria.
- (6) A Quality Assurance/Quality Control Report prepared in accordance with all standardly accepted QA/QC practices.
- (7) An Operation and Maintenance Report prepared to demonstrate how the landfill will meet all the operational requirements.
- (8) A Contingency Plan.
- (9) A Groundwater Monitoring Plan.
- (10) A Closure Plan.
- (11) A Post-Closure Care Plan.

c. The permit application package required by 258.80.b. shall be submitted by and signed and stamped by a professional engineer duly licensed to practice in the state of South Carolina. All individual drawings and plans shall be signed and stamped separately by the professional engineer.

258.81. LANDFILL SITING STUDY

a. All new MSWLF's and lateral expansions of existing MSWLF's shall complete a landfill siting investigation, which shall contain at a minimum, the following steps:

- (1) A preliminary hydrogeologic characterization report on the site, which contains readily available information on the regional, local, and site hydrogeology and groundwater use. The preliminary hydrogeologic characterization report shall be used to eliminate hydrogeologically unsuitable sites, and to determine if site conditions warrant further investigation.

(2) Pending approval of the preliminary hydrogeologic characterization report, a work plan detailing the site specific hydrogeologic investigations to be performed at the site shall be submitted to the Department for review and approval.

(3) Upon approval of the work plan specified in 258.81.a.(2), a site hydrogeologic characterization report shall be prepared and submitted to the Department detailing the findings of the site specific investigations. During review by the Department of the suitability of the site based on the site hydrogeologic characterization report, the permit applicant may proceed with site design, and submittal of a groundwater monitoring plan as specified in 258.93. Approval of the site will be required before the Department will comment on engineering plans associated with the construction of the facility.

b. The landfill siting investigation shall ensure that the proposed landfill location complies with sections 258.11. through 258.15. and section 258.17.

258.82. DISCLOSURE STATEMENT

a. Upon notification of the Department of the intent to site a municipal solid waste landfill, the applicant shall submit a disclosure statement as outlined in section 44-96-300 of the 1976 Code of Laws. The Department may accept one disclosure statement for multiple facility permit applicants. This section shall not apply if the applicant is a local government or a region comprised of local governments. The disclosure statement shall contain the following information with regard to the applicant and his responsible parties:

- (1) the full name, business address, and social security number of all responsible parties;
- (2) a description of the experience and credentials, including any past or present permits or licenses for the collection, transportation, treatment, storage, or disposal of solid waste issued to or held by the applicant within the past five (5) years;
- (3) a listing and explanation of all convictions by final judgement of a responsible party in a state or federal court, whether under appeal or not, of a crime of moral turpitude punishable by a fine of five thousand dollars (\$5,000.00) or more or imprisonment for one year or more, or both, within five (5) years immediately preceding the date of the submission of the permit application.
- (4) a listing and explanation of all convictions by final judgement of a responsible party in a state or federal court, whether under appeal or not, of a criminal or civil offense involving a violation of an environmental law punishable by a fine of five thousand dollars (\$5,000.00) or more or imprisonment for one year or more, or both, in a state or federal court within five (5) years of the date of submission of the permit application;
- (5) a listing and explanation of the instances in which a disposal facility permit held by the applicant was revoked by final judgement in a state or federal court, whether under appeal or not, within five (5) years of the date of submission of the permit application; and
- (6) a listing and explanation of all adjudications of the applicant for having been in contempt of any valid court order enforcing any federal environmental law or any state environmental law relative to the

activity for which the permit is being sought, within five (5) years of the date of submission of the permit application.

258.83. COMPLIANCE WITH SOLID WASTE MANAGEMENT PLANS

a. The permit applicant shall demonstrate compliance with the State Solid Waste Management Plan in effect at the time of submittal of the demonstration to the Department.

b. The permit applicant shall demonstrate compliance with the County or Regional Solid Waste Management Plan in effect at the time of submittal of the demonstration to the Department, and shall:

(1) describe the existing conditions in the area covered by the county or regional plan, including characterization of the solid waste stream by quantity, composition, and give the basis for determination; describe the existing collection practices; and identify other solid waste management facilities in the area covered by the county or regional plan, describing current operating practices, expected life and any pending litigation relating to those facilities;

(2) describe the projected solid waste stream over the landfill's life, including a discussion of the present and projected population in the area covered by the county or regional plan, where applicable;

258.84. PERMIT APPLICATION FORM

a. The permit applicant shall submit a completed permit application, on a form provided by the Department, as a part of the permit application package specified in 258.80. The permit application form may not require any information not specifically required by these regulations.

258.85. FACILITY ISSUES NEGOTIATION PROCESS

a. The permit applicant shall submit to the Department concurrent with or prior to submittal of the information required in 258.80.b., demonstration and documentation that the facility issues negotiation process has been initiated in accordance with section 44-96-470 of the 1976 Code of Laws.

b. Upon completion of the facility issues negotiation process, the facilitator shall provide to the Department a summary of the results of the negotiations within fourteen (14) days of the certification of the facilitator's final report of resolution of the host local government as required by Section 44-96-470 (O) of the Solid Waste Policy and Management Act of 1991.

258.86. ENGINEERING DRAWINGS

a. The engineering drawings must contain the following:

(1) A vicinity plan or map that must show the area within one mile of the property boundaries of the landfill in terms of: the existing and proposed zoning and land uses within that area at the time of permit application; and residences, public and private water supply wells, known aquifers, and surface waters (with quality classifications), access roads, bridges, railroads, airports, historic sites, and other existing and proposed man-made or natural features relating to the facility.

(2) Site plans that must show: the landfill's property boundaries, as certified by an individual licensed to practice land surveying in the State of South Carolina, off-site and on-site utilities (such as, electric, gas, water, storm, and sanitary sewer systems) and right-of-ways, easements; the names and addresses of abutting property owners; the location of soil borings, excavations, test pits, gas venting structures, wells, piezometers, environmental and facility monitoring points and devices, (with each identified with a permanent marking system, and horizontal and vertical location shown, as measured from the ground surface and top of well casing), benchmarks and permanent survey markers, and on-site buildings and appurtenances, fences, gates, roads, parking areas, drainage culverts, and signs; the delineation of the total landfill area including planned staged development of the landfill's construction and operation, and the lateral limits of any previously filled areas; the location and identification of the sources of cover materials; the location and identification of special waste handling areas; and site topography with five (5) feet minimum contour intervals, and any other relevant information.

(3) Detailed plans of the landfill must clearly show in plan and cross sectional views the following: the original, undeveloped site topography before excavation or placement of solid waste; the existing site topography, if different including the location and approximate thickness and nature of any existing solid waste; the high groundwater table; geologic units; known and interpolated bedrock elevations; the proposed limits of excavation and waste placement; the location and placement of each liner system and of each leachate collection system, locating and showing all critical grades and elevations of the collection pipe inverts and drainage envelopes, manholes, cleanouts, valves, sumps, other devices as needed to divert or collect surface water run-on or run-off; the final elevations and grades of the landfill; groundwater monitoring, leachate storage, treatment and disposal systems including the collection network, sedimentation ponds and any treatment, pre-treatment, or storage facilities; roadway sections, dimensions, slopes and profile; the building locations and appurtenances.

258.87. OPERATIONAL PLAN

a. The project's operational plan shall be presented in a manner sufficiently clear and comprehensive for use by the landfill's operator during the life of the landfill; and depict in plan and cross-sectional views the fill progression with respect to site life; and contain:

(1) A description of the site's preparation and fill progression for the life of the site in terms of method, depth, location and sequence.

(2) a method of elevation control for the operator including the location and description of the permanent surveying benchmark at the site; and

(3) a fill progression discussion describing the placement and compacted thickness of daily, intermediate and final cover.

258.88. LANDSCAPE PLAN

a. A landfill's landscape plan must:

(1) identify and locate existing vegetation to be retained and proposed vegetation to be used for cover, screening, and other purposes;

(2) provide a seeding and planting schedule, including the identification of the rationale for the seed mixture choice and fertilization and procedures for seed application, mulching, and maintenance; and

(3) describe the planting plan and schedule which identifies plants to be used consistent with future use proposals.

258.89. ENGINEERING REPORT

a. An engineering report containing a description of the existing site conditions and an analysis of the proposed landfill must be submitted. The report shall:

(1) specify the filling rate (in tons per day) of the landfill for which approval is being sought, describing the number, types, and specifications of all necessary machinery and equipment needed to effectively operate the landfill at the prescribed filling rate;

(2) contain a detailed description of all construction phases, including, but not limited to, the liner system, leachate collection system, and final cover system, and;

(3) contain a site analysis of the proposed action including:

(a) the location of the closest population centers;

(b) a description of the primary transportation systems and routes of waste being transported to the landfill (ie., highways, airports, railways, etc.);

(c) An analysis of the existing topography, surface water and subsurface geological conditions;

(d) a description of the materials and construction methods for the placement of: each monitoring well, all gas venting systems, each liner and leachate collection and removal system, leachate storage, treatment, and disposal systems, and cover systems. This description also must include a discussion of provisions to be taken to prevent frost action upon each liner system in areas where refuse has not been placed;

(e) an estimate of the expected quantity of leachate to be generated, including:

(i) an annual water budget, estimating leachate generation quantities must be prepared for periods of time of initial operation and application of intermediate cover and following facility closure. At a minimum, the following factors must be considered in the preparation of the precipitation infiltration into the landfill: average monthly temperature, average monthly precipitation, evaporation, evapotranspiration which should consider the vegetation type and root zone depth, surface/cover soil conditions and their relation to precipitation runoff which must account for the surface conditions and soil moisture holding capacity and all other sources of moisture contribution to the landfill;

(ii) liner and leachate collection system efficiencies must be calculated using an appropriate analytical or numerical assessment. The factors to be considered in the calculation of collection system

efficiency must include, as a minimum, the saturated hydraulic conductivity of the liner, the liner thickness, the saturated hydraulic conductivity of the leachate collection system, the leachate collection system porosity, the base slope of the liner and leachate collection and removal system interface, the maximum flow distance across the liner and leachate collection and removal system interface to the nearest leachate collection pipe, the estimated leachate generation quantity as computed in accordance with the requirements of the preceding subparagraph; and

(iii) information gained from the collection efficiency calculations required in the preceding two subparagraphs must be used to predict the static head of leachate on the liners, volume of leachate to be collected, and the volume of leachate that may permeate through the entire liner system on a monthly basis. This assessment must also address the amount of leachate expected to be found in the leachate collection and removal system in gallons per acre per day;

(f) the design of the leachate storage facility must be based upon the leachate generation calculation. The design capacity for the leachate storage facility must be based on the proposed leachate disposal method which must allow sufficient lead time for either:

(i) development of a separate set of engineering reports, plans and specifications for the construction and operation of a leachate treatment facility on-site and to obtain approval of this document before any discharge from the leachate storage facility; or

(ii) development of a plan to handle leachate destined for off-site treatment at a wastewater treatment facility, including a legal document (contract, local permit, etc.) certifying acceptance of leachate from the operator of the wastewater treatment facility with all conditions stipulated by the operator of the wastewater treatment facility and all such stipulations addressed in the operations plan, and to ensure that the amount of leachate stored on-site is not in excess of the storage capacity available;

(g) a description of the contingency plan for the construction phase that must describe procedures for responding to construction deficiencies resulting from circumstances including, but not limited to, inclement weather, defective materials or construction inconsistent with specifications as demonstrated by quality control testing. The plan must provide a description of the criteria to be utilized in evaluating deficiencies, and selecting and implementing corrective actions;

(h) discuss the closure and post-closure maintenance and operation of the landfill which must include, but not be limited to:

(i) a closure design consistent with the requirements contained in this regulation.

(ii) A post-closure water quality monitoring program consistent with requirements contained in this regulation.

(iii) An operation and closure plan for the leachate collection, treatment, and storage facilities consistent with the requirements of this regulation.

(iv) A discussion of the future use of the site including the specific proposed or alternative uses. Future uses must conform to the landscape plan, required by this regulation and must not adversely

affect the final cover system;

(i) include appendices demonstrating compliance with pertinent local laws and regulation pertaining to air, land, noise, and water pollution, and other supporting data, including literature citations.

258.90. QUALITY ASSURANCE/QUALITY CONTROL REPORT

a. The project's Quality Assurance (QA) and Quality Control (QC) report shall address the construction requirements set forth in this document for each phase of construction, this plan must include, but not be limited to:

(1) a delineation of the QA and QC management organization, including the chain of command of the QA and QC inspectors and contractors;

(2) a description of the required level of experience and training for the contractor, his crew, and QA/QC inspectors for every major phase of construction in sufficient detail to demonstrate that the installation methods and procedures required in this document will be properly implemented; and

(3) a description of the QA and QC testing protocols for every major phase of construction, including, but is not limited to, the base liner system, leachate collection system, and final cover system, which must include at a minimum: the frequency of inspection, field testing, sampling for laboratory testing, the sampling and field testing procedures and equipment to be utilized, the calibration of field testing equipment, the frequency of performance audits, the sampling size, the soils or geotechnical laboratory to be used, the laboratory procedures to be utilized, the calibration of laboratory equipment and QA/QC of laboratory procedures, the limits for test failure and a description of the corrective procedures to be used upon test failure.

258.91. OPERATION AND MAINTENANCE REPORT

a. The operation and maintenance report for the landfill must include, at a minimum, the following:

(1) A description of the project's personnel requirements, stating personnel responsibilities and duties including discussions for training and lines of authority at the landfill;

(2) a description of all machinery and equipment to be used at the landfill, their authorized uses, and safety features;

(3) a description of the operational controls, including but not limited to signs, hours and days of operation, landfill usage rules and regulations, and traffic flow controls;

(4) a characterization of the anticipated amount of solid waste to be received per day, specifying the quantities received in tons per day, the fill progression of the landfill, and the method of solid waste placement and compaction, and the anticipated in-place density;

(5) a description of the landfill's solid waste receiving process for all solid waste, including inspection of incoming loads, identification of any waste streams to be excluded, and those wastes to receive special handling, or to require treatment before receipt;

(6) a description of the cover material management plan, specifying the types of cover material (daily, intermediate, and final) identifying the quantities required and sources for each cover material by type including the method of cover material placement, compaction, and the anticipated density:

(7) a description of the project's gas monitoring program that must discuss explosive gas generation at the landfill and the controls used to ensure that gas generated at the landfill will not create a hazard to health, safety, or property;

(8) a description of how winter and inclement weather operations will be conducted; and

(9) if applicable, a description of the operation of a convenience station at the landfill for smaller private vehicles to unload refuse at an area other than the landfill's working face.

258.92. CONTINGENCY PLAN

a. The contingency plan must discuss an organized, planned and coordinated, technically and financially feasible course of action to be taken in responding to contingencies during the construction and/or operation of a landfill. The plan must address, at a minimum, actions to be taken with respect to personnel and user safety; on-site personal injury; fires; explosive landfill gases detected on site; dust; litter; odor; noise; equipment breakdown; unusual traffic conditions; vectors; disposition of unapproved wastes; receipt of unauthorized wastes; releases of hazardous or toxic materials; groundwater and surface water contamination which may include public water supply contamination as a result of an accidental spill; and the occurrence of the leachate storage facility being at or above capacity. The contingency plan must specify the procedures to be used in response to: tank and surface impoundment spills or leakage, including removal of the waste and repair of such structures, and the event that the approved leachate treatment facility cannot accept leachate from the landfill for an indefinite period of time.

258.93. GROUNDWATER MONITORING PLAN

a. Upon obtaining approval of the investigations performed to satisfy section 258.81., a groundwater monitoring plan shall be submitted to the Department for review and approval. The groundwater monitoring plan shall detail the activities to be performed to ensure compliance with the requirements of 258.51. (Groundwater Monitoring), 258.53. (Groundwater Sampling and Analysis Requirements), and 258.54. (Detection Monitoring).

258.94. CLOSURE PLAN

a. A closure plan shall be included in the permit application that details the activities that will be performed to satisfy the requirements of section 258.60.

258.95. POST-CLOSURE CARE PLAN

a. A post-closure care plan shall be included in the permit application that details the activities that will be performed to satisfy the requirements of section 258.61.

258.96. - 258.99. [Reserved]

SUBPART I

258.100. VIOLATIONS AND PENALTIES

a. A violation of this regulation subjects the owner of the municipal solid waste landfill to the issuance of a Department order, or to a civil or criminal enforcement action by the Attorney General's office. In addition, the Department may impose reasonable civil penalties not to exceed ten thousand dollars (\$10,000.00) for each day of violation of the provisions of this regulation, including any order, permit or standard. After exhaustion of administrative remedies, a person against whom a civil penalty is evoked by the Department may appeal the decision of the Department or Board to the court of common pleas.

258.101. - 258.109. [Reserved]

SUBPART J

258.110. FEES

[Reserved]

258.111. - 258.119. [Reserved]

SUBPART K

258.120. TONNAGE LIMITS

a. The Department shall prior to issuance of a permit for a new or expanded facility, determine an allowable rate of disposal based on the facilities design capacity, expected operational life, and the area to be served by the facility as outlined in the demonstration of need as required by Code Section 44-96-290. Any landfill permit issued shall include an allowable rate of disposal on a tons per year basis. The tonnage limit may be altered based upon population changes in the area to be served, or for special circumstances due to Acts of God.

258.121. - 258.129. [Reserved]

SUBPART L

258.130. PERMIT CONDITIONS AND PERMIT REVIEW

a. Applications for permits shall be provided by the Department and shall be submitted with sufficient detail to support a judgement that operation of the disposal system will not violate the Acts or regulations of the State of South Carolina. The application shall be signed by the owner and operator of the MSWLF. The approved application and associated plans and drawings shall be an enforceable part of the permit.

b. The Department shall review the permit for each MSWLF at least once every five (5) years, unless otherwise specified by the Department.

(1) If, upon review, the Department finds that material or substantial violations of the permit demonstrate the permittee's disregard for, or inability to comply with applicable laws, regulations, or requirements and would make continuation of this permit not in the best interests of human health and safety or the environment, the Department may, after a hearing, amend or revoke the permit, as appropriate and necessary. When a permit is reviewed, the Department shall include additional limitations, standards, or conditions when the technical limitations, standards, or regulations on which the original permit was based have been changed by statute or amended by regulation.

(2) The Department may amend or attach conditions to a permit when:

(a) There is a significant change in the manner and scope of operation which may require new or additional permit conditions or safeguards to protect human health and safety and the environment;

(b) The investigation has shown the need for additional equipment, construction, procedures, and testing to ensure the protection of human health and safety and the environment; and,

(c) The amendment is necessary to meet changes in applicable regulatory requirements.

c. Any permits issued pursuant to this regulation will not be valid after a period of twelve (12) months of the date of issuance if construction of the facility has not begun by the end of this period.

258.131. - 258.139. [Reserved]

SUBPART M

258.140. TRANSFER OF OWNERSHIP

a. The Department may, upon written request, transfer a permit to a new owner or operator where no other change in the permit is necessary. The proposed new owner of a permitted MSWLF shall, at least forty-five (45) days prior to the scheduled change in ownership, provide:

(1) Documentation of the new owner's name and address.

(2) Documentation of the name and address of the party responsible for the operation and maintenance of the MSWLF, if different from the owner.

(3) A written agreement signed by both parties indicating the intent to change ownership or operating responsibility of the facility. The agreement must contain a specific date for the transfer of permit responsibility.

(4) Documentation indicating that the MSWLF will be operated in accordance with the existing permit in effect at the time of transfer.

(5) Documentation of financial assurance as required by Regulation 61-107.258., Subpart G. The old owner shall maintain financial assurance responsibilities until the new owner can demonstrate satisfactory compliance with Regulation 61-107.258., Subpart G.

(6) A Disclosure Statement as required by Regulation 61-107.258., Subpart H.

b. Upon approval of all items required by Section 258.140.a., the Department shall transfer the permit from the original owner of the MSWLF, to the new owner.

c. A request for a permit modification must be submitted with the transfer of ownership request, if the MSWLF will not be operated in accordance with the approved plans. The permit modification must be in accordance with all provisions of this regulation.

d. The new owner must submit legal documentation of the transfer of ownership of the MSWLF within fifteen (15) days of the actual transfer.

258.141. - 258.149. [Reserved]

SUBPART N

258.150. SEVERABILITY

a. Should any section, paragraph, sentence, clause or phrase of this regulation be declared unconstitutional or invalid for any reason, the remainder of this regulation shall not be affected thereby.

258.151. - 258.159. [Reserved]

SUBPART O

258.160. APPEALS

a. An Appeal from denial of a permit shall be deemed a "contested case" as defined in S.C. Code Ann. 123-310 (2).

258.161. - 258.169. [Reserved]

TABLE 1Chemical MCL (mg/l)

Arsenic	0.05
Barium	2.0
Benzene	0.005
Cadmium	0.005
Carbon tetrachloride	0.005
Chromium (hexavalent)	0.1
2,4-Dichlorophenoxy acetic acid	0.07
1,4-Dichlorobenzene	0.075
1,2-Dichloroethane	0.005
1,1-Dichloroethylene	0.007
Endrin	0.002
Fluoride	4
Lindane	0.0002
Lead ¹	0.015
Mercury	0.002
Methoxychlor	0.04
Nitrate	10
Selenium	0.05
Silver ²	0.1
Toxaphene	0.003
1,1,1-Trichloroethane	0.2
Trichloroethylene	0.005
2,4,5-Trichlorophenoxy acetic acid	0.05
Vinyl Chloride	0.002

¹ Action Level² Secondary Limit

Appendix I

Common Name	CAS RN
pH	
Specific Conductance	
Antimony	Total
Arsenic	Total
Barium	Total
Beryllium	Total
Cadmium	Total
Chromium	Total
Cobalt	Total
Copper	Total
Lead	Total
Nickel	Total
Selenium	Total
Silver	Total
Thallium	Total
Vanadium	Total
Zinc	Total
Acetone	67-64-1
Acrylonitrile	107-13-1
Benzene	71-43-2
Bromochloromethane	74-97-5
Bromodichloromethane	75-27-4
cis-1,3-Dichloropropene	10061-01-5
trans-1,3-Dichloropropene	10061-02-6
Ethylbenzene	100-41-4
Bromoform	75-25-2
2-Butanone (Methyl ethyl ketone)	78-93-3
Carbon disulfide	75-15-0
Carbon tetrachloride	56-23-5
Chlorobenzene	108-90-7
Chloroethane	75-00-3
Chloroform	67-66-3
Dibromochloromethane	124-48-1
1,2-Dibromoethane	106-93-4
o-Dichlorobenzene	95-50-1
p-Dichlorobenzene	106-46-7
trans-1,4-Dichloro-2-butene	110-57-6
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8
1,1-Dichloroethane	75-34-3
1,2-Dichloroethane	107-06-2
1,2-Dichloropropane	78-87-5
2-Hexanone	591-78-6
Iodomethane	74-88-4
Methylene chloride	75-09-2
Methyl bromide	74-83-9
Methyl chloride	74-87-3
Methylene bromide	74-95-3

Common Name	CAS RN
4-Methyl-2-pentanone	108-10-1
1,1-Dichloroethene	75-35-4
trans-1,2-Dichloroethene	156-60-5
cis-1,2-Dichloroethene	156-59-2
Styrene	100-42-5
1,1,1,2-Tetrachloroethane	630-20-6
1,1,2,2-Tetrachloroethane	79-34-5
Tetrachloroethylene	127-18-4
Toluene	108-88-3
1,1,1-Trichloroethane	71-55-6
1,1,2-Trichloroethane	79-00-5
Trichloroethene	79-01-6
Trichlorofluoromethane	75-69-4
1,2,3-Trichloropropane	96-18-4
Vinyl acetate	108-05-4
Vinyl chloride	75-01-4
Xylene	1330-20-7

Appendix II

Common Name	CAS RN
Acenaphthene	83-32-9
Acenaphthylene	208-96-8
Acetone	67-64-1
Acetonitrile; Methyl Cyanide	75-05-8
Acetophenone	98-86-2
2-Acetylaminofluorene; 2AAF	53-96-3
Acrolein	107-02-8
Acrylonitrile	107-13-1
Aldrin	309-00-2
Allyl chloride	107-05-1
a-Aminobiphenyl	92-67-1
Anthracene	120-12-7
Antimony	Total
Arsenic	Total
Barium	Total
Benzene	71-43-2
Benzo[a]anthracene; Benzanthracene	56-55-3
Benzo[b]fluoranthene	205-99-2
Benzo[k]fluoranthene	207-08-9
Benzo[ghi]perylene	191-24-2
Benzo[a]pyrene	50-32-8
benzyl alcohol	100-51-6
Beryllium	Total
alpha-BHC	319-84-6
beta-BHC	319-85-7
delta-BHC	319-86-8
gamma-BHC; Lindane	58-89-9
Bis(2-chloroethoxy)methane	111-91-1
Bis(2-chloroethyl) ether; Dichloroethyl ether	111-44-4
Bis(2-chloro-1-methylethyl) ether	108-60-1
Bis(2-ethylhexyl) phthalate	117-81-7
Bromochloromethane; Chlorobromomethane	74-97-5
Bromodichloromethane; Dibromochloromethane	75-27-4
Bromoform	75-25-2
4-Bromophenyl phenyl ether	101-55-3
Butyl benzyl phthalate	85-68-7
Cadmium	Total
Carbon disulfide	75-15-0
Carbon tetrachloride	56-23-5
Chlordane	All
p-Chloroaniline	106-47-8
Chlorobenzene	108-90-7
Chlorobenzilate	510-15-6
p-Chloro-m-cresol	59-50-7
Chloroethane; Ethyl chloride	75-00-3
Chloroform	67-66-3
2-Chloronaphthalene	91-58-7
2-Chlorophenol	95-57-8

Common Name	CAS RN
4-Chlorophenyl phenyl ether	7005-72-3
Chloroprene	126-99-8
Chromium	Total
Chrysene	218-01-9
Cobalt	Total
Copper	Total
m-Cresol	108-39-4
o-Cresol	95-48-7
P-Cresol	106-44-5
Cyanide	57-12-5
2,4-D; 2,4-Dichlorophenoxyacetic acid	94-75-7
4,4-DDD	72-54-8
4,4-DDE	72-55-9
4,4-DDT	50-29-3
Diallate	2303-16-4
Dibenz[a,h]anthracene	53-70-3
Dibenzofuran	132-64-9
Dibromochloromethane	124-48-1
1,2-Dibromo-3-chloropropane;DBCP	96-12-8
1,2-Dibromoethane	106-93-4
D-n-butyl phthalate	84-74-2
o-Dichlorobenzene	95-50-1
m-Dichlorobenzene	541-73-1
p-Dichlorobenzene	106-46-7
3,3-Dichlorobenzidine	91-94-1
trans-1,4-Dichloro-2-butene	110-57-6
Dichlorodifluoromethane; CFC 12	75-71-8
1,1-Dichloroethane	75-34-3
1,2-Dichloroethane	107-06-2
1,1-Dichloroethylene	75-35-4
cis-1,2-Dichloroethylene	156-59-2
trans-1,2-Dichloroethylene	156-60-5
2,4-Dichlorophenol	120-83-2
2,6-Dichlorophenol	87-65-0
1,2-Dichloropropane	78-87-5
1,3-Dichloropropane	142-28-9
2,2-Dichloropropane	594-20-7
1,1-Dichloropropene	563-58-6
cis-1,3-Dichloropropene	10061-01-5
trans-1,3-Dichloropropene	10061-02-6
Dieldrin	60-57-1
Diethyl phthalate	84-66-2
0,0-Diethyl 0-2-pyrazinyl phosphorothioate; Thionazin	297-97-2
Dimethoate	60-51-5
p-(Dimethylamino)azobenzene	60-11-7

Common Name	CAS RN
7,12-Dimethylbenz[a]anthracene	57-97-6
3,3-Dimethylbenzidine	119-93-7
2,4-Dimethylphenol;m-Xylenol	105-67-9
Dimethyl phthalate	131-11-3
m-Dinitrobenzene	99-65-0
4,6-Dinitro-o-cresol	534-52-1
2,4-Dinitrophenol	51-28-5
2,4-Dinitrotoluene	121-14-2
2,6-Dinitrotoluene	606-20-2
Dinoseb; DNBP	88-85-7
Di-n-octyl phthalate	117-84-0
Diphenylamine	122-39-4
Disulfoton	298-04-4
Endosulfan I	959-98-8
Endosulfan II	33213-65-9
Endosulfan sulfate	1031-07-8
Endrin	72-20-8
Endrin aldehyde	7421-93-4
Ethylbenzene	100-41-4
Ethyl methacrylate	97-63-2
Ethyl methanesulfonate	62-50-0
Famphur	52-85-7
Fluoranthene	206-44-0
Fluorene	86-73-7
Heptachlor	76-44-8
Heptachlor epoxide	1024-57-3
Hexachlorobenzene	118-74-1
Hexachlorobutadiene	87-68-3
Hexachlorocyclopentadiene	77-47-4
Hexachloroethane	67-72-1
Hexachloropropene	1888-71-7
2-Hexanone; Methyl butyl ketone	591-78-6
Indeno(1,2,3-cd)pyrene	193-39-5
Isobutyl alcohol	78-83-1
Isodrin	465-73-6
Isophorone	78-59-1
Isosafrole	120-58-1
Kepone	143-50-0
Lead	Total
Mercury	Total
Methacrylonitrile	126-98-7
Methapyrilene	91-80-5
Methoxychlor	72-43-5
Methyl bromide	74-83-9
Methyl chloride	74-87-3

Common Name	CAS RN
3-Methylcholanthrene	56-49-5
Methyl ethyl ketone; MEK	78-93-3
Methyl iodide	74-88-4
Methyl methacrylate	80-62-6
Methyl methanesulfonate	66-27-3
2-Methylnaphthalene	91-57-6
Methyl parathion	298-00-0
4-Methyl-2-pentanone	108-10-1
Methylene bromide	74-95-3
Methylene chloride	75-09-2
Naphthalene	91-20-3
1,4-Naphthoquinone	130-15-4
1-Naphthylamine	134-32-7
2-Naphthylamine	91-59-8
Nickel	Total
o-Nitroaniline	88-74-4
m-Nitroaniline	99-09-2
p-Nitroaniline	100-01-6
Nitrobenzene	98-95-3
o-Nitrophenol	88-75-5
p-Nitrophenol	100-02-7
N-Nitrosodi-n-butylamine	924-16-3
N-Nitrosodiethylamine	55-18-5
N-Nitrosodimethylamine	62-75-9
N-Nitrosodiphenylamine	86-30-6
N-Nitrosodipropylamine	621-64-7
N-Nitrosomethylethylamine	10595-95-6
N-Nitrosopiperidine	100-75-4
N-Nitrosopyrrolidine	930-55-2
5-Nitro-o-toluidine	99-55-8
Parathion	56-38-2
Pentachlorobenzene	608-93-5
Pentachloronitrobenzene	82-68-8
Pentachlorophenol	87-86-5
Phenacetin	62-44-2
Phenanthrene	85-01-8
Phenol	108-95-2
p-Phenylenediamine	106-50-3
Phorate	298-02-2
Polychlorinated biphenyls PCB's	1336-36-3
Pronamide	23950-58-5
Propionitrile	107-12-0
Pyrene	129-00-0
Safrole	94-59-1
Selenium	Total

Common Name	CAS RN
Silver	Total
Silvex: 2,4,5-TP	93-72-1
Styrene	100-42-5
Sulfide	18496-25-8
2,4,5-T; 2,4,5-Trichlorophenoxyacetic acid	93-76-5
1,2,4,5-Tetrachlorobenzene	95-94-3
1,1,1,2-Tetrachlorethane	630-20-6
1,1,2,2-Tetrachloroethane	79-34-5
Tetrachloroethylene	127-18-4
2,3,4,6-Tetrachlorophenol	58-90-2
Thallium	Total
Tin	Total
Toluene	108-88-3
o-Toluidine	95-53-4
Toxaphene	8001-35-2
1,2,4-Trichlorobenzene	120-82-1
1,1,1-Trichloroethane	71-55-6
1,1,2 Trichloroethane	79-00-5
Trichloroethylene	79-01-6
Trichlorofluoromethane; CFC-11	75-69-4
2,4,5-Trichlorophenol	95-95-4
2,4,6-Trichlorophenol	88-06-2
1,2,3-Trichloropropane	96-18-4
0,0,0-Triethyl phosphorothioate	126-68-1
sym-Trinitrobenzene	99-35-4
Vanadium	Total
Vinyl acetate	108-05-4
Vinyl chloride	75-01-4
Xylene (total)	See Note 1
Zinc	Total

Note 1: Includes o-xylene (96-47-6), m-xylene (108-38-3), p-xylene (106-42-3), and unspecified xylenes (1330-20-7).

R. 61-107.279. Solid Waste Management: Used Oil.

SUBPART A: DEFINITIONS.

279.1 Definitions. Terms that are defined in the South Carolina Hazardous Waste Management Regulations R.61-79.260.10, and 261.1, and South Carolina Underground Storage Tank Control Regulations R.61-92.280.12 but are not defined in this regulation have the same meanings when used in this regulation.

- a. "Aboveground tank" means a tank used exclusively to store or process used oil that is not an underground storage tank as defined in the South Carolina Underground Storage Tank Control Regulations, R.61-92.280.12.
- b. "Container" means any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled.
- c. "Department" means the South Carolina Department of Health and Environmental Control.
- d. "Do-it-yourselfer used oil collection center" means any site or facility that accepts/aggregates and stores used oil collected only from household do-it-yourselfers.
- e. "Energy recovery" means the beneficial use, reuse, recycling, or reclamation of solid waste through the use of the waste to recover energy therefrom.
- f. "Existing tank" means a tank that is used for the storage or processing of used oil and that is in operation, or for which installation has commenced on or prior to the effective date of the authorized used oil program for the State in which the tank is located. Installation will be considered to have commenced if the owner or operator has obtained all federal, state, and local approvals or permits necessary to begin installation of the tank and if either (1) a continuous on-site installation program has begun, or (2) the owner or operator has entered into contractual obligations -- which cannot be canceled or modified without substantial loss -- for installation of the tank to be completed within a reasonable time.
- g. "Facility" means all contiguous land, structures, other appurtenances and improvements on the land used for treating, storing, or disposing of solid waste. A facility may consist of several treatment, storage, or disposal operational units, including, but not limited to, one or more landfills, surface impoundments, or combination thereof.
- h. "Hazardous substance" means any substance the Environmental Protection Agency (EPA) has designated for special consideration under the Clean Air Act (CAA), Clean Water Act (CWA), or Toxic Substances Control Act (TSCA), and any hazardous waste, as defined.
- i. "Hazardous waste" has the meaning provided in Section 44-56-20 of the South Carolina Hazardous Waste Management Act.
- j. "Hot-drained" means that the oil filter is drained near engine operating temperature and above room temperature.
- k. "Household 'do-it-yourselfer' used oil" means used oil that is derived from households, such as used oil generated by individuals who generate used oil through the maintenance of their personal vehicles.
- l. "Household 'do-it-yourselfer' used oil generator" means an individual who generates household "do-it-yourselfer" used oil.
- m. "Landfill" means a disposal facility or part of a facility where solid waste is placed in or on land, and which is not a land treatment facility, a surface impoundment, or an injection well.

n. "Motor oil" and "similar lubricants" mean the fraction of crude oil or synthetic oil that is classified for the use in the crankcase, transmission, gearbox, or differential of an internal combustion engine, including automobiles, buses, trucks, lawn mowers and other household power equipment, industrial machinery, and other mechanical devices that derive their power from internal combustion engines. The terms include re-refined oil but do not include heavy greases and specialty industrial or machine oils, such as spindle oils, cutting oils, steam cylinder oils, industrial oils, electrical insulating oils, or solvents which are not sold at retail in this State.

o. "New tank" means a tank that will be used to store or process used oil and for which installation has commenced after the effective date of this regulation.

p. "Owner/operator" means the person who owns the land on which a solid waste management facility is located or the person who is responsible for the overall operation of the facility, or both.

q. "Person" means an individual, corporation, company, association, partnership, unit of local government, state agency, federal agency, or other legal entity.

r. "Petroleum refining facility" means an establishment primarily engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, and lubricants, through fractionation, straight distillation of crude oil, re-distillation of unfinished petroleum derivatives, cracking or other processes (i.e., facilities classified as SIC 2911).

s. "Processing" means chemical or physical operations designed to produce from used oil, or to make used oil more amenable for production of, fuel oils, lubricants, or other used oil-derived product. Processing includes, but is not limited to: blending used oil with virgin petroleum products, blending used oils to meet the fuel specification, filtration, simple distillation, chemical or physical separation and re-refining.

t. "Re-refining distillation bottoms" means the heavy fraction produced by vacuum distillation of filtered and dehydrated used oil. The composition of still bottoms varies with column operation and feedstock.

u. "Recycling" means any process by which materials which would otherwise become solid waste, are separated or processed and reused or returned to use in the form of raw materials or products (including composting).

v. "Resource recovery" means the process of obtaining material or energy resources from solid waste which no longer has any useful life in its present form and preparing the waste for recycling.

w. "Tank" means any stationary device, designed to contain an accumulation of used oil which is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) which provides structural support.

x. "Terne plated" means oil filters which are plated with an alloy of tin and lead.

y. “Used oil” means any oil which has been refined from crude or synthetic oil and, as a result of use, storage, or handling, has become unsuitable for its original purpose due to the presence of impurities or loss of original properties, but which may be suitable for further use and may be economically recyclable.

z. “Used oil aggregation point” means any site or facility that accepts, aggregates, and/or stores used oil collected only from other used oil generation sites owned or operated by the owner or operator of the aggregation point, from which used oil is transported to the aggregation point in shipments of no more than 55 gallons. Used oil aggregation points may also accept used oil from household do-it-yourselfers.

aa. “Used oil burner” means a facility where used oil not meeting the specification requirements in 279.11 is burned for energy recovery in devices identified in 279.61.a.

bb. “Used oil collection center” means a facility which, in the course of business, accepts used oil for subsequent disposal or recycling. Used oil collection centers may also accept used oil from household do-it-yourselfers.

cc. “Used oil generator” means any person, by site, whose act or process produces used oil or whose act first causes used oil to become subject to regulation.

dd. “Used oil fuel marketer” means any person who conducts either of the following activities:

(i) Directs a shipment of off-specification used oil from their facility to a used oil burner; or

(ii) First claims that used oil that is to be burned for energy recovery meets the used oil fuel specifications set forth in 279.11 of this regulation.

ee. “Used oil processor/re-refiner” means a facility that processes used oil.

ff. “Used oil transfer facility” means any transportation related facility including loading docks, parking areas, storage areas and other areas where shipments of used oil are held for more than 24 hours and not longer than 35 days during the normal course of transportation or prior to an activity performed pursuant to 279.20(b)(2). Transfer facilities that store used oil for more than 35 days are subject to regulation under subpart F of this part.

gg. “Used oil transporter” means any person who transports used oil, any person who collects used oil from more than one generator and transports the collected oil, and owners and operators of used oil transfer facilities. Used oil transporters may consolidate or aggregate loads of used oil for purposes of transportation but, with the following exception, may not process used oil. Transporters may conduct incidental processing operations that occur in the normal course of used oil transportation (e.g., settling and water separation), but that are not designed to produce (or make more amenable for production of) used oil derived products or used oil fuel.

SUBPART B: APPLICABILITY.

279.10 Applicability.

a. Except as provided in 279.11, the regulations of this part apply to used oil, and to materials identified in this section as being subject to regulation as used oil, whether or not the used oil or material exhibits any characteristics of hazardous waste identified in R.61-79.261.

b. Mixtures of used oil and hazardous waste.

(1) Listed hazardous waste.

(a) Mixtures of used oil and hazardous waste that are listed in Subpart D of R.61-79.261 are subject to regulation as hazardous waste under R.61-79.260 through 266, 268, 270, and 124, rather than as used oil under this regulation.

(b) Used oil containing more than 1,000 ppm total halogens is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in Subpart D of R.61-79.261. Persons may rebut this presumption by demonstrating that the used oil does not contain hazardous waste (for example, by using an analytical method from SW-846, Edition III, to show that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in Appendix VIII of R.61-79.261).

(i) The rebuttable presumption does not apply to metalworking oils/fluids containing chlorinated paraffins, if they are processed, through a tolling arrangement as described in 279.24.c, to reclaim metalworking oils/fluids. The presumption does apply to metalworking oils/fluids if such oils/fluids are recycled in any other manner, or disposed.

(ii) The rebuttable presumption does not apply to used oils contaminated with chlorofluorocarbons (CFCs) reclaimed to the extent possible from refrigeration units where the CFCs are destined for reclamation. The rebuttable presumption does apply to used oils contaminated with CFCs that have been mixed with used oil from sources other than refrigeration units.

(2) Mixtures of used oil and hazardous waste that solely exhibit one or more of the hazardous waste characteristics identified in subpart C of R.61-79.261 and mixtures of used oil and hazardous waste that are listed in subpart D solely because they exhibit one or more of the characteristics of hazardous waste identified in subpart C are subject to:

(a) Except as provided in paragraph b.(2)(c) of this regulation, regulation as hazardous waste under R.61-79.260 through 266, 268, 270, and 124 rather than as used oil under this regulation, if the resultant mixture exhibits any characteristics of hazardous waste identified in Subpart C of R.61-79.261; or

(b) Except as specified in paragraph b.(2)(c), regulation as used oil under this regulation, if the resultant mixture does not exhibit any characteristics of hazardous waste identified under Subpart C of R.61-79.261.

(c) Regulation as used oil under this regulation, if the mixture is of used oil and a waste which is hazardous solely because it exhibits the characteristic of ignitability (e.g., ignitable-only mineral spirits) and is not listed in Subpart D of R.61-79.261, provided that the mixture does not exhibit the characteristic of ignitability under R.61-79.261.21.

(3) Mixtures of used oil and conditionally exempt small quantity generator hazardous waste regulated under R.61-79.261.5 are subject to regulation as used oil under this regulation.

c. Materials containing or otherwise contaminated with used oil.

(1) Except as provided in paragraph c.(2) of this section, materials containing or otherwise contaminated with used oil waste from which the used oil has been properly drained or removed to the extent possible such that no visible signs of free-flowing oil remain in or on the solid waste are:

(a) Not used oil and thus not subject to this regulation; and

(b) Solid wastes, and if the materials are listed or identified as hazardous waste, are subject to the hazardous waste regulations R.61-79.260 through 266, 268, 270, and 124.

(2) Materials containing or otherwise contaminated with used oil that are burned for energy recovery are subject to regulation as used oil under this regulation.

(3) Used oil drained or removed from materials containing or otherwise contaminated with used oil is subject to regulation as used oil under this regulation.

d. Mixtures of used oil with other fuel products.

(1) Except as provided in paragraph d.(2) of this section, mixtures of used oil and fuels or other fuel products are subject to regulation as used oil under this regulation.

(2) Mixtures of used oil and diesel fuel mixed on-site by the generator of the used oil for use in the generator's own vehicles are not subject to this regulation once the used oil and diesel fuel have been mixed. Prior to mixing, the used oil is subject to the requirements of Subpart C of this regulation.

e. Materials derived from used oil.

(1) Materials that are reclaimed from used oil that are used beneficially and are not burned for energy recovery or used in a manner constituting disposal (e.g., re-refined lubricants) are:

(a) Not used oil and thus are not subject to this regulation, and

(b) Not solid wastes and are thus not subject to the hazardous waste regulations of R.61-79.260 through 266, 268, 270, and 124 as provided in R.61-79.261.3(c)(2)(i).

(2) Materials produced from used oil that are burned for energy recovery (e.g., used oil fuels) are subject to regulation as used oil under this regulation.

(3) Except as provided in paragraph e.(4) of this section, materials derived from used oil that are disposed of or used in a manner constituting disposal are:

(a) Not used oil and thus are not subject to this regulation, and

(b) Are solid wastes and thus are subject to the hazardous waste regulations of R.61-79.260 through 266, 268, 270, and 124 if the materials are listed or identified as hazardous waste.

(4) Used oil re-refining distillation bottoms that are used as feedstock to manufacture asphalt products are not subject to this regulation.

f. Wastewater, the discharge of which is subject to regulation under either Section 402 or Section 307(b) of the Clean Water Act (including wastewaters at facilities which have eliminated the discharge of wastewater), contaminated with *de minimis* quantities of used oil are not subject to the requirements of this regulation. For purposes of this paragraph, "*de minimis*" quantities of used oils are defined as small spills, leaks, or drippings from pumps, machinery, pipes, and other similar equipment during normal operations or small amounts of oil lost to the wastewater treatment system during washing or draining operations. This exception will not apply if the used oil is discarded as a result of abnormal manufacturing operations resulting in substantial leaks, spills, or other releases, or to used oil recovered from wastewaters.

g. Used oil introduced into crude oil pipelines or a petroleum refining facility.

(1) Used oil mixed with crude oil or natural gas liquids (e.g., in a production separator or crude oil stock tank) for insertion into a crude oil pipeline is exempt from the requirements of this part. The used oil is subject to the requirements of this part prior to the mixing of used oil with crude oil or natural gas liquids.

(2) Mixtures of used oil and crude oil or natural gas liquids containing less than 1% used oil that are being stored or transported to a crude oil pipeline or petroleum refining facility for insertion into the refining process at a point prior to crude distillation or catalytic cracking are exempt from the requirements of this regulation.

(3) Used oil that is inserted into the petroleum refining facility process before crude distillation or catalytic cracking without prior mixing with crude oil constitutes less than 1% of the crude oil feed to any petroleum refining facility process unit at any given time. Prior to insertion into the petroleum refining facility process, the used oil is subject to the requirements of this part.

(4) Except as provided in paragraph (g)(5) of this section, used oil that is introduced into a petroleum refining facility process after crude distillation or a catalytic cracking is exempt from the requirements of this part only if the used oil meets the specification of R.61-79.11. Prior to insertion into the petroleum refining facility process, the used oil is subject to the requirements of the regulation.

(5) Used oil that is incidentally captured by a hydrocarbon recovery system or wastewater treatment system as part of routine process operations at a petroleum refining facility and inserted into the petroleum refining facility process is exempt from the requirements of this part. This exemption does not extend to used oil which is intentionally introduced into a hydrocarbon recovery system (e.g, by pouring collected used oil into the wastewater treatment system).

(6) Tank bottoms from stock tanks containing exempt mixtures of used oil and crude oil or natural gas liquids are exempt from the requirements of this part.

h. Used oil produced on vessels from normal shipboard operations is not subject to this regulation until it is transported ashore.

i. In addition to the requirements of 40 CFR part 279, marketers and burners of used oil who market used oil containing any quantifiable level of PCBs are subject to the requirements found at 40 CFR 761.20(e).

279.11 Used Oil Specifications.

Used oil burned, and any fuel produced from used oil by processing, blending, or other treatment, is subject to regulation under this regulation unless it is shown not to exceed any of the allowable levels of the constituents and properties in the specification shown in Table 1 below. Once used oil that is to be burned has been shown not to exceed any specification and the person making that showing complies with 279.72, 279.73, and 279.74.b., the used oil is no longer subject to this regulation.

Table 1: Used Oil Not Exceeding Any Specification Level is Not Subject to This Regulation When Burned for Energy Recovery^{a,c}

<u>Constituent/property</u>	<u>Allowable level</u>
Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Flash Point	100° Fahrenheit minimum
Total Halogens	4,000 ppm maximum ^b

^a The specification does not apply to mixtures of used oil and hazardous waste that continue to be regulated as hazardous waste (see 279.10.b.).

^b Used oil containing more than 1,000 ppm total halogens is presumed to be a hazardous waste under the rebuttable presumption provided under 279.10.b.(1). Such used oil is subject to Subpart H of R.61-79.266 rather than this regulation when burned for energy recovery unless the presumption of mixing can be successfully rebutted.

^c Applicable standards for the burning of used oil containing PCBs are imposed by 40 CFR 761.20(e).

279.12 Prohibitions.

a. Used oil shall not be managed in surface impoundments or waste piles unless the units are subject to regulation under R.61-79.264 or 265.

b. No person shall utilize used oil for road oiling, dust control, weed abatement, or other similar uses which have potential to cause harm to the environment.

c. Off-specification used oil fuel may be burned only in the following devices:

(1) Industrial furnaces identified in R.61-79.260.10;

(2) Boilers, as defined in R.61-79.260.10, that are identified as follows:

(a) Industrial boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes;

(b) Utility boilers used to produce electric power, steam, heated or cooled air, or other gases or fluids for sale; or

(c) Used oil-fired space heaters provided that the burner meets the provisions of 279.23 of Subpart C.

(3) Hazardous waste incinerators subject to regulation under Subpart O of R.61-79.264 or 265.

d. No person shall knowingly mix or commingle used oil with municipal solid waste that is to be disposed in a municipal solid waste landfill, discard or otherwise dispose of used oil, except by delivery to a used oil collection facility, used oil energy recovery facility, oil recycling facility, or to an authorized agent for delivery to a used oil collection facility, used oil energy recovery facility, or oil recycling facility.

e. No person shall knowingly dispose of used oil in a solid waste disposal facility unless such disposal is approved by the Department.

f. No person shall knowingly place in a solid waste disposal facility wipers (shop towels, rags and industrial wipers) or sorptive materials (clays and diatomaceous earths) which are capable of releasing free flowing used oil. For the purposes of this regulation, free flowing used oil means any material determined to contain "free liquids" as defined by Method 9095 (Paint Filter Liquids Test), as described in "Test Methods for Evaluating Solid Wastes, Physical\Chemical Methods" (EPA Pub. No. SW-846).

g. No person shall knowingly collect, transport, store, recycle, use or dispose of used oil in any manner which endangers public health or welfare or the environment.

h. No person shall knowingly discharge used oil into sewers, drainage systems, septic tanks, surface water or groundwater, or any other waters of this State, or onto the ground.

i. No person shall knowingly mix or commingle used oil with hazardous substances that make it unsuitable for recycling or beneficial use.

j. Notwithstanding any other provision of law, any person who knowingly disposes of any used oil which has not been properly segregated or separated from other solid wastes by the generator is guilty of a violation of this subsection.

k. No person shall knowingly violate any applicable South Carolina Air Pollution Control Regulations and Standards (R.61-62).

279.13 Exemptions. The following activities are exempted from the permitting requirements of this regulation, but must comply with the used oil management standards set forth in this regulation:

a. an electric utility, an industrial facility or a governmental organization which generates during its operation used oil that is then reused, recycled, or refined on-site by the electric utility, an industrial facility or a governmental organization for use in its operations, or

b. the use of used oil for the beneficiation or flotation of phosphate rock.

SUBPART C: STANDARDS FOR USED OIL GENERATORS.

279.20 Applicability.

a. Except as provided in paragraphs a.(1) through a.(4) of this section, this subpart applies to all used oil generators. A used oil generator is any person, by site, whose act or process produces used oil or whose act first causes used oil to become subject to regulation.

(1) Household "do-it-yourselfer" used oil generators are not subject to regulation under this regulation.

(2) Vessels at sea or at port are not subject to this subpart. For purposes of this subpart, used oil produced on vessels from normal shipboard operations is considered to be generated at the time it is transported ashore. The owner or operator of the vessel and the person(s) removing or accepting used oil from the vessel are co-generators of the used oil and are both responsible for managing the waste in compliance with this subpart once the used oil is transported ashore. The co-generators may decide among them which party will fulfill the requirements of this subpart.

(3) Mixtures of used oil and diesel fuel mixed by the generator of the used oil for use in the generator's own vehicles are not subject to this regulation once the used oil and diesel fuel have been mixed. Prior to mixing, the used oil fuel is subject to the requirements of this subpart.

(4) Farmers who generate an average of 25 gallons per month or less of used oil from vehicles or machinery used on the farm in a calendar year are not subject to the requirements of this regulation.

b. Used oil generators who conduct the following activities are subject to the requirements of other applicable provisions of this regulation as indicated below.

(1) Generators who transport used oil, except under the self-transport provisions of 279.24.a. and b. of this regulation, must also comply with Subpart E: Standards for Used Oil Transporters and Transfer Facilities of this regulation.

(2) Generators who process or re-refine used oil must also comply with Subpart F: Standards for Used Oil Processors and Re-refiners of this regulation.

(3) Generators who burn off-specification used oil for energy recovery, except under the on-site space heater provisions of 279.23 of this regulation, must also comply with Subpart G: Standards for Used Oil Burners who Burn Off-Specification Used Oil for Energy Recovery of this regulation.

(4) Generators who direct shipments of off-specification used oil from their facility to a used oil burner or first claim that used oil that is to be burned for energy recovery meets the used oil fuel specifications set forth in 279.11 of this regulation must also comply with Subpart H: Standards for Used Oil Fuel Marketers of this regulation.

(5) Generators who perform the following activities are not processors provided that the used oil is generated on-site and is not being sent off-site to a burner of on- or off-specification used oil fuel.

(a) Filtering, cleaning or otherwise reconditioning used oil before returning it for reuse by the generator;

(b) Separating used oil from wastewater generated on-site to make the wastewater acceptable for discharge or reuse pursuant to section 402 or section 307(b) of the Clean Water Act or other applicable Federal or state regulations governing the management or discharge of wastewaters;

(c) Using oil mist collectors to remove small droplets of used oil from in-plant air to make plant air suitable for continued recirculation;

(d) Draining or otherwise removing used oil from materials containing or otherwise contaminated with used oil in order to remove excessive oil to the extent possible pursuant to the regulation, or;

(e) Filtering, separating or otherwise reconditioning used oil before burning it in a space heater pursuant to the regulation.

279.21 Hazardous Waste Mixing.

- a. Mixtures of used oil and hazardous waste must be managed in accordance with 279.10.b.
- b. The rebuttable presumption for used oil of 279.10.b.(1)(b) applies to used oil managed by generators.

279.22 Used Oil Storage.

- a. Used oil generators shall not store used oil in units other than tanks, containers, or units subject to regulation under R.61-79.264 or 265.
- b. Containers and aboveground tanks used to store used oil at generator facilities must be:
 - (1) In good condition (no severe rusting, apparent structural defects or deterioration); and
 - (2) Not leaking (no visible leaks).
- c. Labels.

(1) Containers and aboveground tanks used to store used oil at generator facilities must be labeled or marked clearly with the words "Used Oil."

(2) Fill pipes used to transfer used oil into underground storage tanks at generator facilities must be labeled or marked clearly with the words "Used Oil."

d. Upon detection of a release of used oil to the environment not subject to the requirements of the Underground Storage Tank Control Regulations R.61-92 Part 280 Subpart F which has occurred in South Carolina, a generator must perform the following cleanup steps:

(1) Stop the release;

(2) Contain the released used oil;

(3) Clean up and manage properly the released used oil and other materials; and

(4) If necessary to prevent future releases, repair or replace any leaking used oil storage containers or tanks prior to returning them to service.

e. Used oil generators are subject to all applicable Spill Prevention, Control and Countermeasures (40 CFR Part 112) in addition to the requirements of this subpart. Used oil generators are also subject to R.61-92.280 standards for used oil stored in underground tanks whether or not the used oil exhibits any characteristics of hazardous waste, in addition to the requirements of this subpart.

279.23 On-site Burning in Space Heaters.

a. Generators may burn used oil in used oil-fired space heaters provided that:

(1) The heater burns only used oil that the owner or operator generates or used oil received from household do-it-yourself used oil generators;

(2) The heater is designed to have a maximum capacity of not more than 0.5 million Btu per hour; and

(3) The combustion gases from the heater are vented to outside ambient air.

279.24 Off-site Shipments.

Except as provided in paragraphs a. through c. of this section, generators must ensure that their used oil is transported only by transporters who have obtained a Department identification number and a permit from the Department.

a. Generators may transport, without an EPA identification number and a Department registration, used oil that is generated at the generator's site and used oil collected from household do-it-yourselfers to a used oil collection center provided that:

(1) The generator transports the used oil in a vehicle owned by the generator or owned by an employee of the generator;

(2) The generator transports no more than 55 gallons of used oil at any time; and

(3) The generator transports the used oil to a used oil collection center that is registered by the Department to manage used oil.

b. Generators may transport, without an EPA identification number and a Department registration, used oil that is generated at the generator's site to an aggregation point provided that:

(1) The generator transports the used oil in a vehicle owned by the generator or owned by an employee of the generator;

(2) The generator transports no more than 55 gallons of used oil at any time; and

(3) The generator transports the used oil to an aggregation point that is owned and/or operated by the same generator.

c. Used oil generators may arrange for used oil to be transported by a transporter without an EPA identification number and a Department registration if the used oil is reclaimed under a contractual agreement pursuant to which reclaimed oil is returned by the processor/re-refiner to the generator for use as a lubricant, cutting oil, or coolant. The contract (known as a "tolling arrangement") must indicate:

(1) The type of used oil and the frequency of shipments;

(2) That the vehicle used to transport the used oil to the processing/re-refining facility and to deliver recycled used oil back to the generator is owned and operated by the used oil processor/re-refiner; and

(3) That reclaimed oil will be returned to the generator.

d. Used oil generators shall maintain a copy of the used oil manifest provided by the used oil transporter. A copy of each used oil manifest shall be maintained by the generator for a minimum of three (3) years.

SUBPART D: STANDARDS FOR USED OIL COLLECTION CENTERS AND AGGREGATION POINTS.

279.30 Do-It-Yourselfer Used Oil Collection Centers.

a. This section applies to owners or operators of all do-it-yourselfer (DIY) used oil collection centers. A DIY used oil collection center is any site or facility that accepts/aggregates and stores used oil collected only from household do-it-yourselfers.

b. Owners or operators of all DIY used oil collection centers must comply with the generator standards in Subpart C of this regulation.

279.31 Used Oil Collection Centers.

a. This section applies to owners or operators of used oil collection centers. A used oil collection center is any site or facility that accepts/aggregates and stores used oil collected from used oil generators regulated under Subpart C of this regulation who bring used oil to the collection center in shipments of no more than 55 gallons under the provisions of 279.24.a. Used oil collection centers may also accept used oil from household do-it-yourselfers.

b. Owners or operators of all used oil collection centers must:

(1) Comply with the generator standards in Subpart C of this regulation;

(2) Be registered by the Department to manage used oil;

(3) Obtain a registration from the Department prior to first accepting used oil at the site. All used oil collection centers in operation at the effective date of this regulation shall submit an application for a registration from the Department within ninety (90) days; and,

(4) Submit to the Department on or before March 15, an annual report for the previous year which contains at a minimum the following information:

(a) if the collection facility is accepting used oil from the public;

(b) the quantities of used oil collected in the previous year;

(c) the total quantity of used oil handled in the previous year; and,

(d) where the used oil is being recycled or processed.

c. All used oil collection facilities shall notify the Department in writing if they intend to cease the collection of used oil. Closure shall consist of, at a minimum, the removal of all oil collected at the site, dismantling and removal or proper cleaning and capping of all collection equipment and ancillary equipment, and removal and proper disposal or treatment of any oil stained soils. Further assessment and remediation, if necessary, shall be directed by the Department.

d. Containers and tanks used to store used oil at collection centers must be equipped with a secondary containment system capable of retaining the volumetric contents of the largest tank or container.

(1) The secondary containment system must consist of, at a minimum:

(a) Dikes, berms or retaining walls; and

(b) A floor. The floor must cover the entire area within the dikes, berms, or retaining walls.

(c) An equivalent secondary containment system approved by the Department.

(2) The entire containment system, including walls and floor, must be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater, or surface water.

279.32 Used Oil Aggregation Points Owned By the Generator.

a. This section applies to owners or operators of all used oil aggregation points. A used oil aggregation point is any site or facility that accepts, aggregates, and/or stores used oil collected only from other used oil generation sites owned or operated by the owner or operator of the aggregation point, from which used oil is transported to the aggregation point in shipments of no more than 55 gallons under the provisions of 279.24.b. Used oil aggregation points may also accept used oil from household do-it-yourselfers.

b. Owners or operators of all used oil aggregation points must comply with the generator standards in Subpart C of this regulation.

279.33 Petroleum Fund.

a. No person may recover from the owner or operator of a registered used oil collection facility that accepts used oil from the public (do-it-yourselfers) in five (5) gallon or less quantities any costs of response actions resulting from a release of either used oil or a hazardous substance from a used oil collection facility if such used oil is:

(1) not mixed with any hazardous substance by the owner or operator of the used oil collection facility;

(2) not knowingly accepted with any hazardous substances contained in it;

(3) from the public (do-it-yourselfers) and stored in a separate collection container;

(4) transported from the used oil collection facility by a registered used oil transporter; and,

(5) collected in a used oil collection facility that is in compliance with this subpart.

b. If a hazardous substance is found to be mixed with used oil accepted from the public at a registered used oil collection facility, any costs for the proper disposal of this contaminated waste will be incurred by the Petroleum Fund, if no more than five (5) gallons of used oil was accepted from any one person at any one time. This subsection applies to that portion of the used oil collection facility utilized for the collection of used oil and does not apply if the owner or operator is grossly negligent in the operation of the public used oil collection facility. Nothing in this section shall affect or modify in any way the obligations or liability of any person under any other provisions of state or federal law, including common law, for injury or damage resulting from the release of used oil or hazardous substances. For the purpose of this subsection, the owner or operator of a used oil collection facility may presume that a quantity of no more than five (5) gallons of used oil accepted from any member of the public is not mixed with a hazardous

substance, if the owner or operator acts in good faith and in the belief the oil is generated from the individual's personal activity.

SUBPART E: STANDARDS FOR USED OIL TRANSPORTER AND TRANSFER FACILITIES.

279.40 Applicability.

a. Except as provided in paragraphs a.(1) through a.(4) of this section, this subpart applies to all used oil transporters. Used oil transporters are persons who transport used oil, persons who collect used oil from more than one generator and transport the collected oil, and owners and operators of used oil transfer facilities.

(1) This subpart does not apply to on-site transportation.

(2) This subpart does not apply to generators who transport shipments of used oil totalling 55 gallons or less from the generator to a used oil collection center as specified in 279.24.a. of this regulation.

(3) This subpart does not apply to generators who transport shipments of used oil totalling 55 gallons or less from the generator to a used oil aggregation point owned or operated by the same generator as specified in 279.24.b. of this regulation.

(4) This subpart does not apply to transportation of used oil from household do-it-yourselfers to a regulated used oil generator, collection center, aggregation point, processor/re-refiner, or burner subject to the requirements of this regulation. Except as provided in paragraphs a.(1) through a.(3) of this section, this subpart does, however, apply to transportation of collected household do-it-yourselfer used oil from regulated used oil generators, collection centers, aggregation points, or other facilities where household do-it-yourselfer used oil is collected.

b. Transporters who import used oil from abroad or export used oil outside of the United States are subject to the requirements of this subpart from the time the used oil enters and until the time it exits the United States.

c. Unless trucks previously used to transport hazardous waste are emptied as described in R.61-79.261.7 prior to transporting used oil, the used oil is considered to have been mixed with the hazardous waste and must be managed as hazardous waste unless, under the provisions of 279.10.b. of this regulation, the hazardous waste/used oil mixture is determined not to be hazardous waste.

d. Used oil transporters who conduct the following activities are also subject to other applicable provisions of this regulation as indicated below:

(1) Transporters who generate used oil must also comply with Subpart C: Standards for Used Oil Generators of this regulation;

(2) Transporters who process or re-refine used oil, except as provided in 279.41, must also comply with Subpart F: Standards for Used Oil Processors and Re-refiners of this regulation;

(3) Transporters who burn off-specification used oil for energy recovery must also comply with Subpart G: Standards for Used Oil Burners who Burn Off-Specification Used Oil for Energy Recovery of this regulation; and

(4) Transporters who direct shipments of off-specification used oil from their facility to a used oil burner or first claim that used oil that is to be burned for energy recovery meets the used oil fuel specifications set forth in 279.11 of this regulation must also comply with Subpart H of this regulation.

279.41 Restrictions on Transporters Who Are Not Also Processors or Re-refiners.

a. Used oil transporters may consolidate or aggregate loads of used oil for purposes of transportation. However, except as provided in paragraph b. of this section, used oil transporters may not process used oil unless they also comply with the requirements for processors/re-refiners in Subpart F of this regulation.

b. Transporters may conduct incidental processing operations that occur in the normal course of used oil transportation (e.g., settling and water separation), but that are not designed to produce (or make more amenable for production of) used oil derived products unless they also comply with the processor/re-refiner requirements in Subpart F of this regulation.

c. Transporters of used oil that is removed from oil bearing electrical transformers and turbines and filtered by the transporter or at a transfer facility prior to being returned to its original use are not subject to the processor/re-refiner requirements in this regulation.

279.42 Notification and Insurance Requirements.

a. Used oil transporters that have previously notified EPA of hazardous waste and other used oil management activities and obtained a EPA identification number must renotify with the Department to identify their used oil transportation activities. In addition, the transporter must register with the Department.

b. A used oil transporter who has not received an EPA identification number may obtain one by notifying the Department of their used oil activity by submitting a completed SCDHEC Form 2701.

c. In addition to obtaining an EPA identification number, each transporter of used oil shall register with the Department. Registration shall be made by completion of an application form provided by the Department.

d. A transporter of used oil shall have and maintain financial responsibility for sudden and accidental occurrences in the amount of at least one million dollars (\$1,000,000) per occurrence exclusive of legal defense costs. Coverage must provide for claims arising out of injury to persons, property or the environment including the spillage of used oil while such wastes are being transported and including the costs of cleaning up the spill. Such liability coverage must be maintained at all times while the registration is in force.

e. The financial responsibility required in subsection d. may be established by any one or a combination of the following:

(1) Evidence of liability insurance, either on a claim made or an occurrence basis, with or without a deductible, with the deductible, if any, to be on a per occurrence or per accident basis and not to exceed ten (10) percent of the equity of the registered transporter;

(2) self insurance, the level of which shall not exceed ten (10) percent equity of the registered transporter; or

(3) other evidence of financial responsibility approved by the Department.

279.43 Used Oil Transportation.

a. A used oil transporter must deliver all used oil received to:

(1) Another used oil transporter, provided that the transporter has obtained an EPA identification number and is registered with the Department;

(2) A used oil processing/re-refining facility which has obtained an EPA identification number;

(3) An off-specification used oil burner facility which has obtained an EPA identification number; or

(4) An on-specification used oil burner facility.

b. Used oil transporters must comply with all applicable requirements under the US Department of Transportation regulations in 49 CFR parts 171-180. Persons transporting used oil that meets the definition of a hazardous material in 49 CFR 171.8 must comply with all applicable regulations in 49 CFR parts 171-180.

c. Used oil discharges.

(1) In the event of a discharge of used oil during transportation, the transporter must take appropriate immediate action to protect human health and the environment (e.g., notify local authorities, dike the discharge area).

(2) If a discharge of used oil occurs during transportation and an official (State or local government or a Federal Agency) acting within the scope of official responsibilities determines that immediate removal of the used oil is necessary to protect human health or the environment, that official may authorize the removal of the used oil by a transporter who is not registered with the Department.

(3) An air, rail, highway, or water transporter who has discharged used oil must:

(a) Give notice, if required by 49 CFR 171.15 to the National Response Center (800-424-8802 or 202-426-2675); and

(b) Report in writing as required by 49 CFR 171.16 to the Director, Office of Hazardous Materials Regulations, Materials Transportation Bureau, Department of Transportation, Washington, D.C. 20590.

(c) Immediately telephone the Department's 24-hour emergency telephone number (803) 253-6488, giving all requested information.

(4) A water transporter who has discharged used oil must give notice as required by 33 CFR 153.203.

(5) A transporter must clean up any used oil discharge that occurs during transportation or take such action as may be required or approved by federal, state, or local officials so that the used oil discharge no longer presents a hazard to human health or the environment. Further assessment and remediation, if necessary, shall be directed by the Department.

d. All registered used oil transporters shall show evidence of familiarity with laws and regulations governing used oil transportation by submitting a training program for approval by the Department which includes provisions for at least the following:

(1) compliance with state and federal regulations governing used oil;

(2) proper used oil management practices, including appropriate response action to any release or spill;

(3) introduction of a new employee to the applicable laws and rules before unsupervised driving of a used oil transportation vehicle;

(4) verification that company personnel handling or transporting used oil have successfully completed the training program. New employees directly involved with handling or transporting used oil shall complete the training program as soon as possible, but no later than ninety (90) days after beginning employment.

e. Any used oil transporter which transports used oil through South Carolina and does not stop to accept or deliver used oil is not subject to the requirements of this regulation, with the exception of sections 279.43.b. and 279.43.c.

279.44 Rebuttable Presumption for Used Oil.

a. To ensure that used oil is not a hazardous waste under the rebuttable presumption of 279.10.b.(1)(b) of this regulation, the used oil transporter must determine whether the total halogen content of used oil being transported or stored at a transfer facility is above or below 1,000 ppm.

b. The transporter must make this determination by:

(1) Testing the used oil; or

(2) Applying knowledge of the halogen content of the used oil in light of the materials or processes used.

c. If the used oil contains greater than or equal to 1,000 ppm total halogens, it is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in Subpart D of R.61-79.261. The owner or operator may rebut the presumption by demonstrating that the used oil does not contain hazardous waste (for example, by using an analytical method from SW-846, Edition III, to show that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in Appendix VIII of R.61-79.261).

(1) The rebuttable presumption does not apply to metalworking oils/fluids containing chlorinated paraffins, if they are processed, through a tolling arrangement as described in 279.24.c., to reclaim metalworking oils/fluids. The presumption does apply to metalworking oils/fluids if such oils/fluids are recycled in any other manner, or disposed.

(2) The rebuttable presumption does not apply to used oils contaminated with chlorofluorocarbons (CFCs) removed from refrigeration units if the CFCs reclaimed to the extent possible are destined for reclamation. The rebuttable presumption does apply to used oils contaminated with CFCs that have been mixed with used oil from sources other than refrigeration units.

d. Records of analyses conducted or information used to comply with paragraphs a., b., and c. of this section must be maintained by the transporter for at least three (3) years.

279.45 Used Oil Storage at Transfer Facilities.

a. This section applies to used oil transfer facilities. Used oil transfer facilities are transportation related facilities including loading docks, parking areas, storage areas, and other areas where shipments of used oil are held for more than twenty-four (24) hours during the normal course of transportation and not longer than thirty-five (35) days. Transfer facilities that store used oil for more than thirty-five (35) days are subject to regulation under Subpart F of this regulation.

b. Owners or operators of used oil transfer facilities may not store used oil in units other than tanks, containers, or units subject to regulation under R.61-79.264 or 265.

c. Containers and aboveground tanks used to store used oil at transfer facilities must be:

(1) In good condition (no severe rusting, apparent structural defects or deterioration); and

(2) Not leaking (no visible leaks).

d. Containers and tanks used to store used oil at transfer facilities must be equipped with a secondary containment system capable of retaining the volumetric contents of the largest tank or container.

(1) The secondary containment system must consist of, at a minimum:

(a) Dikes, berms or retaining walls; and

(b) A floor. The floor must cover the entire area within the dikes, berms, or retaining walls.

(c) An equivalent secondary containment system approved by the Department.

(2) The entire containment system, including walls and floor, must be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater, or surface water.

e. Existing aboveground tanks used to store used oil at transfer facilities must be equipped with a secondary containment system capable of retaining the volumetric contents of the largest tank.

(1) The secondary containment system must consist of, at a minimum:

(a) Dikes, berms or retaining walls; and

(b) A floor. The floor must cover the entire area within the dike, berm, or retaining wall except areas where existing portions of the tank meet the ground; or

(c) An equivalent secondary containment system approved by the Department.

(2) The entire containment system, including walls and floor, must be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater, or surface water.

f. New aboveground tanks used to store used oil at transfer facilities must be equipped with a secondary containment system capable of retaining the volumetric contents of the largest tank.

(1) The secondary containment system must consist of, at a minimum:

(a) Dikes, berms or retaining walls; and

(b) A floor. The floor must cover the entire area within the dike, berm, or retaining wall; or

(c) An equivalent secondary containment system approved by the Department.

(2) The entire containment system, including walls and floor, must be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater, or surface water.

g. Labeling.

(1) Containers and aboveground tanks used to store used oil at transfer facilities must be labeled or marked clearly with the words "Used Oil."

(2) Fill pipes used to transfer used oil into underground storage tanks at transfer facilities must be labeled or marked clearly with the words "Used Oil."

h. Upon detection of a release of used oil to the environment not subject to the requirements of R.61-92.280 Subpart F, the owner/operator of a transfer facility must perform the following cleanup steps:

(1) Stop the release;

(2) Contain the released used oil;

(3) Clean up and manage properly the released used oil and other materials; and

(4) If necessary, repair or replace any leaking used oil storage containers or tanks prior to returning them to service.

(5) Further assessment and remediation, if necessary, shall be directed by the Department.

i. Used oil transporters are subject to all applicable Spill Prevention, Control and Countermeasures (40 CFR Part 112) in addition to the requirements of this subpart. Used oil generators are also subject to R.61-92.280 standards for used oil stored in underground tanks whether or not the used oil exhibits any characteristics of hazardous waste, in addition to the requirements of this subpart.

279.46 Manifesting and Reporting.

a. Used oil transporters must prepare a used oil manifest as designated by the Department for each used oil shipment accepted for transport. A copy of the used oil manifest shall accompany each vehicle at all times. Manifests for each shipment must include, at a minimum:

(1) The name and address of the generator, transporter, or processor/re-refiner who provided the used oil for transport;

(2) The EPA identification number (if applicable) of the generator, transporter, or processor/re-refiner who provided the used oil for transport;

(3) The quantity of used oil accepted;

(4) The date of acceptance; and

(5) The signature, dated upon receipt of the used oil, of a representative of the generator, transporter, or processor/re-refiner who provided the used oil for transport. Intermediate rail transporters are not required to sign the record of acceptance.

b. Used oil transporters must maintain manifests and keep a record of each shipment of used oil that is delivered to another used oil transporter, or to a used oil burner, processor/re-refiner, or disposal facility. Records of each delivery must include:

(1) The name and address of the receiving facility or transporter;

(2) The EPA identification number of the receiving facility or transporter;

(3) The quantity of used oil delivered;

(4) The date of delivery;

(5) The signature, dated upon receipt of the used oil, of a representative of the receiving facility or transporter. Intermediate rail transporters are not required to sign the record of delivery.

c. Used oil transporters must maintain the records described in paragraphs b.(1) through b.(4) of this section for each shipment of used oil exported to any foreign country.

d. The records described in paragraphs a., b., and c. of this section must be maintained for at least three (3) years.

e. Used oil transporters shall deliver the shipment of used oil to the facility identified on the used oil manifest, and provide the facility and the generator with a copy of the used oil manifest.

f. All used oil transporters shall maintain records and submit annual reports on or before March 15, which identify, at a minimum:

(1) the sources of the used oil transported;

(2) the quantity of materials received;

(3) the date of receipt;

(4) the destination or the end use of the materials within South Carolina; and,

(5) proof of liability insurance or other means of financial responsibility for any liability which may be incurred in the transport of used oil.

279.47 Management of Residues. Transporters who generate residues from the storage or transport of used oil must manage the residues as specified in 279.10.e.

SUBPART F: STANDARDS FOR USED OIL PROCESSORS AND RE-REFINERS.

279.50 Applicability.

a. The requirements of this subpart apply to owners and operators of facilities that process used oil. Processing means chemical or physical operations designed to produce from used oil, or to make used oil more amenable for production of, fuel oils, lubricants, or other used oil-derived products. Processing includes, but is not limited to: blending used oil with virgin petroleum products, blending used oils to meet the fuel specification, filtration, simple distillation, chemical or physical separation and re-refining. The requirements of this subpart do not apply to:

(1) Transporters that conduct incidental processing operations that occur during the normal course of transportation as provided in 279.41 of this regulation; or

(2) Burners that conduct incidental processing operations that occur during the normal course of used oil management prior to burning as provided in 279.61.b.

b. Used oil processors/re-refiners who conduct the following activities are also subject to the requirements of other applicable provisions of this regulation as indicated in paragraphs b.(1) through b.(4) of this section.

(1) Processors/re-refiners who generate used oil must also comply with Subpart C: Standards for Used Oil Generators of this regulation;

(2) Processors/re-refiners who transport used oil must also comply with Subpart E: Standards for Used Oil Transporters and Transfer Facilities;

(3) Except as provided in paragraphs b.(3)(a) and b.(3)(b) of this section, processors/re-refiners who burn off-specification used oil for energy recovery must also comply with Subpart G : Standards for Used Oil Burners who Burn Off-Specification Used Oil for Energy Recovery. Processor/re-refiners burning used oil for energy recovery under the following conditions are not subject to Subpart G of this regulation:

(a) The used oil is burned in an on-site space heater that meets the requirements of 279.23; or

(b) The used oil is burned for purposes of processing used oil, which is considered burning incidentally to used oil processing.

(4) Processors/re-refiners who direct shipments of off-specification used oil from their facility to a used oil burner or first claim that used oil that is to be burned for energy recovery meets the used oil fuel specifications set forth in 279.11 of this regulation must also comply with Subpart H of this regulation.

279.51 Notification and Permitting.

a. Used oil processors/re-refiners that have previously notified EPA of hazardous waste and other used oil activities and obtained an EPA identification number must notify the Department to identify the used oil processor/re-refiner activities. In addition, the processor/re-refiner must obtain a permit from the Department.

b. A used oil processor or re-refiner who has not received an EPA identification number may obtain one by notifying the Department of the used oil activity by submitting a completed SCDHEC Form 2701.

c. Each person who intends to operate, modify, or close a used oil recycling facility shall obtain an operation or closure permit from the Department prior to operating, modifying, or closing the facility.

279.52 General Facility Standards.

a. Owners and operators of used oil processors and re-refiners facilities must comply with the following requirements:

(1) Facilities must be maintained and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of used oil to air, soil, or surface water which could threaten human health or the environment.

(2) All facilities must be equipped with the following, unless none of the hazards posed by used oil handled at the facility could require a particular kind of equipment specified below:

(a) An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;

(b) A device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or State or local emergency response teams;

(c) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment and decontamination equipment; and

(d) Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.

(3) All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.

(4) Whenever used oil is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless such a device is not required in paragraph a.(2) of this section.

(a) If there is ever just one employee on the premises while the facility is operating, the employee must have immediate access to a device, such as a telephone (immediately available at the scene of operation) or a hand-held two-way radio, capable of summoning external emergency assistance, unless such a device is not required in paragraph a.(2) of this section.

(5) The owner or operator must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless aisle space is not needed for any of these purposes.

(6) Arrangements with local authorities.

(a) The owner or operator must make the following arrangements, as appropriate for the type of used oil handled at the facility and the potential need for the services of these organizations:

(i) Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of used oil handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes;

(ii) Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority;

(iii) Agreements with State emergency response teams, emergency response contractors, and equipment suppliers; and

(iv) Arrangements to familiarize local hospitals with the properties of used oil handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

(b) Where State or local authorities decline to enter into such arrangements, the owner or operator must document the refusal in the operating record.

b. Owners and operators of used oil processors and re-refiners facilities must comply with the following requirements:

(1) Purpose and implementation of the contingency plan.

(a) Each owner or operator must have a contingency plan for the facility. The contingency plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of used oil to air, soil, or surface water.

(b) The provisions of the plan must be carried out immediately whenever there is a fire, explosion, or release of used oil which could threaten human health or the environment.

(2) Content of the contingency plan.

(a) The contingency plan must describe the actions facility personnel must take to comply with subsections b. and f. of this section in response to fires, explosions, or any unplanned sudden or non-sudden release of used oil to air, soil, or surface water at the facility.

(b) If the owner or operator has already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan in accordance with 40 CFR part 112, or part 1510 of chapter V, or some other emergency or contingency plan, the owner or operator need only amend that plan to incorporate used oil management provisions that are sufficient to comply with the requirements of this regulation.

(c) The plan must describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and State and local emergency response teams to coordinate emergency services, pursuant to paragraph a.(6) of this section.

(d) The plan must list names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator (see subsection e. of this section), and this list must be kept up to date. Where more than one person is listed, one must be named as primary emergency coordinator and others must be listed in the order in which they will assume responsibility as alternates.

(e) The plan must include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.

(f) The plan must include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes (in cases where the primary routes could be blocked by releases of used oil or fires).

c. A copy of the contingency plan and all revisions to the plan must be:

(1) Maintained at the facility; and

(2) Submitted to all local police departments, fire departments, hospitals, and State and local emergency response teams that may be called upon to provide emergency services.

d. The contingency plan must be reviewed, and immediately amended, if necessary, whenever:

(1) Applicable regulations are revised;

(2) The plan fails in an emergency;

(3) The facility changes-in its design, construction, operation, maintenance, or other circumstances-in a way that materially increases the potential for fires, explosions, or releases of used oil, or changes the response necessary in an emergency;

(4) The list of emergency coordinators changes; or

(5) The list of emergency equipment changes.

e. At all times, there must be at least one employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristic of used oil handled, the location of all records within the facility, and facility layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan.

f. Emergency procedures.

(1) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or the designee when the emergency coordinator is on call) must immediately:

(a) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and

(b) Notify the Department or appropriate local agencies with designated response roles if their help is needed.

(2) Whenever there is a release, fire, or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and a real extent of any released materials. He may do this by observation or review of facility records of manifests and, if necessary, by chemical analysis.

(3) Concurrently, the emergency coordinator must assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment must consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-offs from water of chemical agents used to control fire and heat-induced explosions).

g. If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, he must report his findings as follows:

(1) If his assessment indicated that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated; and

(2) He must immediately notify either the Department official designated as the on-scene coordinator for the geographical area (in the applicable regional contingency plan under part 1510 of this title), or the National Response Center (using their 24-hour toll free number 800/424-8802). The report must include:

(a) Name and telephone number of reporter;

(b) Name and address of facility;

(c) Time and type of incident (e.g., release, fire);

(d) Name and quantity of material(s) involved, to the extent known;

(e) The extent of injuries, if any; and

(f) The possible hazards to human health, or the environment, outside the facility.

h. During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other used oil or hazardous

waste at the facility. These measures must include, where applicable, stopping processes and operation, collecting and containing released used oil, and removing or isolating containers.

i. If the facility stops operation in response to a fire, explosion, or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

j. Immediately after an emergency, the emergency coordinator must provide for recycling, storing, or disposing of recovered used oil, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.

k. The emergency coordinator must ensure that, in the affected area(s) of the facility:

(1) No waste or used oil that may be incompatible with the released material is recycled, treated, stored, or disposed of until cleanup procedures are completed; and

(2) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

l. The owner or operator must notify the Department, and appropriate local authorities that the facility is in compliance with paragraph k. of this section before operations are resumed in the affected area(s) of the facility.

m. The owner or operator must note in the operating record the time, date and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, he must submit a written report on the incident to the Department. The report must include:

(1) Name, address, and telephone number of the owner or operator;

(2) Name, address, and telephone number of the facility;

(3) Date, time, and type of incident (e.g., fire, explosion)

(4) Name and quantity of material(s) involved;

(5) The extent of injuries, if any;

(6) An assessment of actual or potential hazards to human health or the environment, where this is applicable; and,

(7) Estimated quantity and disposition of recovered material that resulted from the incident.

279.53 Rebuttable Presumption for Used Oil.

a. To ensure that used oil managed at a processing/re-refining facility is not hazardous waste under the rebuttable presumption of 279.10.b.(1)(b), the owner or operator of a used oil processing/re-refining

facility must determine whether the total halogen content of used oil managed at the facility is above or below 1,000 ppm.

b. The owner or operator must make this determination by:

(1) Testing the used oil; or

(2) Applying knowledge of the halogen content of the used oil in light of the materials or processes used.

c. If the used oil contains greater than or equal to 1,000 ppm total halogens, it is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in Subpart D of R.61-79.261. The owner or operator may rebut the presumption by demonstrating that the used oil does not contain hazardous waste (for example, by using an analytical method from SW-846, Edition III, to show that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in Appendix VIII of R.61-79.261).

(1) The rebuttable presumption does not apply to metalworking oils/fluids containing chlorinated paraffins, if they are processed, through a tolling agreement, to reclaim metalworking oils/fluids. The presumption does apply to metalworking oils/fluids if such oils/fluids are recycled in any other manner, or disposed.

(2) The rebuttable presumption does not apply to used oils contaminated with chlorofluorocarbons (CFCs) reclaimed to the extent possible from refrigeration units where the CFCs are destined for reclamation. The rebuttable presumption does apply to used oils contaminated with CFCs that have been mixed with used oil from sources other than refrigeration units.

279.54 Used Oil Management.

a. Used oil processors/re-refiners may not store used oil in units other than tanks, containers, or units subject to regulation under R.61-79.264 or 265.

b. Containers and aboveground tanks used to store or process used oil at processing and re-refining facilities must be:

(1) In good condition (no severe rusting, apparent structural defects or deterioration); and

(2) Not leaking (no visible leaks).

c. Containers and tanks used to store or process used oil at processing and re-refining facilities must be equipped with a secondary containment system capable of retaining the volumetric contents of the largest container.

(1) The secondary containment system must consist of, at a minimum:

(a) Dikes, berms or retaining walls; and

(b) A floor. The floor must cover the entire area within the dike, berm, or retaining wall.

(c) An equivalent secondary containment system approved by the Department.

(2) The entire containment system, including walls and floor, must be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater, or surface water.

d. Existing aboveground tanks used to store or process used oil at processing and re-refining facilities must be equipped with a secondary containment system capable of retaining the volumetric contents of the largest tank.

(1) The secondary containment system must consist of, at a minimum:

(a) Dikes, berms or retaining walls; and

(b) A floor. The floor must cover the entire area within the dike, berm, or retaining wall except areas where existing portions of the tank meet the ground; or

(c) An equivalent secondary containment system approved by the Department.

(2) The entire containment system, including walls and floor, must be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater, or surface water.

e. New aboveground tanks used to store or process used oil at processing and re-refining facilities must be equipped with a secondary containment system capable of retaining the volumetric contents of the largest tank.

(1) The secondary containment system must consist of, at a minimum:

(a) Dikes, berms or retaining walls; and

(b) A floor. The floor must cover the entire area within the dike, berm, or retaining wall; or

(c) An equivalent secondary containment system approved by the Department.

(2) The entire containment system, including walls and floor, must be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater, or surface water.

f. Labels.

(1) Containers and aboveground tanks used to store or process used oil at processing and re-refining facilities must be labeled or marked clearly with the words "Used Oil."

(2) Fill pipes used to transfer used oil into underground storage tanks at processing and re-refining facilities must be labeled or marked clearly with the words "Used Oil."

g. Upon detection of a release of used oil to the environment not subject to the requirements of R.61-79.280 Subpart F, an owner/operator must perform the following cleanup steps:

(1) Stop the release;

(2) Contain the released used oil;

(3) Clean up and manage properly the released used oil and other materials; and

(4) If necessary, repair or replace any leaking used oil storage containers or tanks prior to returning them to service.

(5) Further assessment and remediation, if necessary, shall be directed by the Department.

h. Closure requirements.

(1) Owners and operators who store or process used oil in aboveground tanks must comply with the following requirements:

(a) At closure of a tank system, the owner or operator must remove or decontaminate used oil residues in tanks, contaminated containment system components, contaminated soils, and structures and equipment contaminated with used oil, and manage them as hazardous waste, unless the materials are not hazardous waste under this regulation. Further assessment and remediation, if necessary, shall be directed by the Department.

(b) If the owner or operator demonstrates that not all contaminated soils can be practicably removed or decontaminated as required in paragraph h.(1)(a) of this section, then the owner or operator must close the tank system and perform post-closure care in accordance with the closure and post-closure care requirements that apply to hazardous waste landfills (R.61-79.265.310).

(2) Owners and operators who store used oil in containers must comply with the following requirements:

(a) At closure, containers holding used oils or residues of used oil must be removed from the site;

(b) The owner or operator must remove or decontaminate used oil residues, contaminated containment system components, contaminated soils, and structures and equipment contaminated with used oil, and manage them as hazardous waste, unless the materials are not hazardous waste under R.61-79.261.

279.55 Analysis Plan.

Owners or operators of used oil processing and re-refining facilities must develop and follow a written analysis plan describing the procedures that will be used to comply with the analysis requirements of 279.53 and, if applicable, 279.72. The owner or operator must keep the plan at the facility.

a. At a minimum, the plan must specify the following:

(1) Whether sample analyses or knowledge of the halogen content of the used oil will be used to make this determination.

(2) If sample analyses are used to make this determination:

(a) The sampling method used to obtain representative samples to be analyzed. A representative sample may be obtained using either:

(i) One of the sampling methods in Appendix I of R.61-79.261; or

(ii) A method shown to be equivalent under R.61-79.260.20 and 260.21;

(b) The frequency of sampling to be performed, and whether the analysis will be performed on-site or off-site; and

(c) The methods used to analyze used oil for the parameters specified in 279.53; and

(3) The type of information that will be used to determine the halogen content of the used oil.

b. At a minimum, the plan must specify the following if 279.72 is applicable:

(1) Whether sample analyses or other information will be used to make this determination;

(2) If sample analyses are used to make this determination:

(a) The sampling method used to obtain representative samples to be analyzed. A representative sample may be obtained using either:

(i) One of the sampling methods in Appendix I of R.61-79.261; or

(ii) A method shown to be equivalent under R.61-79.260.20 and 260.21;

(b) Whether used oil will be sampled and analyzed prior to or after any processing/re-refining;

(c) The frequency of sampling to be performed, and whether the analysis will be performed on-site or off-site; and

(d) The methods used to analyze used oil for the parameters specified in 279.72; and

(3) The type of information that will be used to make the on-specification used oil fuel determination.

279.56 Tracking.

a. Used oil processors/re-refiners must keep a copy of the manifest for each used oil shipment accepted for processing/re-refining. Records for each shipment must include the following information:

- (1) The name and address of the transporter who delivered the used oil to the processor/re-refiner;
- (2) The name and address of the generator or processor/re-refiner from whom the used oil was sent for processing/re-refining;
- (3) The EPA identification number and the Department registration number of the transporter who delivered the used oil to the processor/re-refiner;
- (4) The EPA identification number and the Department permit number (if applicable) of the generator or processor/re-refiner from whom the used oil was sent for processing/re-refining;
- (5) The quantity of used oil accepted; and
- (6) The date of acceptance.

b. Used oil processor/re-refiners must keep a copy of the manifest of each shipment of used oil that is shipped to a used oil burner, processor/re-refiner, or disposal facility. Records for each shipment must include the following information:

- (1) The name and address of the transporter who delivers the used oil to the burner, processor/re-refiner or disposal facility;
- (2) The name and address of the burner, processor/re-refiner or disposal facility who will receive the used oil;
- (3) The EPA identification number and the Department registration number of the transporter who delivers the used oil to the burner, processor/re-refiner or disposal facility;
- (4) The EPA identification number and the Department permit number of the burner, processor/re-refiner, or disposal facility who will receive the used oil;
- (5) The quantity of used oil shipped; and
- (6) The date of shipment.

c. The manifests and records described in paragraphs a. and b. of this section must be maintained for at least three (3) years.

279.57 Operating Record and Reporting.

a. Operating Record.

(1) The owner or operator must keep a written operating record at the facility.

(2) The following information must be recorded, as it becomes available, and maintained in the operating record until closure of the facility:

(a) Records and results of used oil analyses performed as described in the analysis plan required under 279.55; and

(b) Summary reports and details of all incidents that require implementation of the contingency plan as specified in 279.52.b.

b. A used oil processor/re-refiner must report to the Department, in the form of a letter, on an annual basis (by March 15 of each year), the following information concerning used oil activities during the previous calendar year:

(1) The EPA identification number, Department permit number, name, and address of the processor/re-refiner;

(2) The calendar year covered by the report; and

(3) The quantities of used oil accepted for processing/re-refining and the manner in which the used oil is processed/re-refined, including the specific processes employed.

c. Each permitted person who processes, re-refines or otherwise recycles used oil shall maintain records which identify, at a minimum:

(1) the source of the materials recycled;

(2) the quantity of materials received;

(3) the date of receipt;

(4) the destination or the end use of the materials; and,

(5) the results of analytical testing to ensure that delivered used oil is not contaminated with hazardous substances.

279.58 Off-site Shipments of Used Oil. Used oil processors/re-refiners who initiate shipments of used oil off-site must ship the used oil by means of a used oil transporter who has obtained an EPA identification number and is registered with the Department.

279.59 Management of Residues. Owners and operators who generate residues from the storage, processing, or re-refining of used oil must manage the residues as specified in 279.10.e.

SUBPART G: STANDARDS FOR USED OIL BURNERS WHO BURN OFF-SPECIFICATION USED OIL FOR ENERGY RECOVERY.

279.60 Applicability.

a. The requirements of this subpart apply to used oil burners except as specified in paragraphs a.(1) and a.(2) of this section. A used oil burner is a facility where used oil not meeting the specification requirements in 279.11 is burned for energy recovery in devices identified in 279.61.a. No person shall knowingly violate any applicable South Carolina Air Pollution Control Regulations and Standards (R.61-62). Facilities burning used oil for energy recovery under the following conditions are not subject to this subpart:

(1) The used oil is burned by the generator in an on-site space heater under the provisions of 279.23 of this regulation; or

(2) The used oil is burned by a processor/re-refiner for purposes of processing used oil, which is considered burning incidentally to used oil processing.

b. Used oil burners who conduct the following activities are also subject to the requirements of other applicable provisions of this regulation as indicated below.

(1) Burners who generate used oil must also comply with Subpart C: Standards for Used Oil Generators;

(2) Burners who transport used oil must also comply with Subpart E: Standards for Used Oil Transporters and Transfer Facilities of this regulation;

(3) Except as provided in 279.61.b., burners who process or re-refine used oil must also comply with Subpart F: Standards for Used Oil Processors and Re-refiners of this regulation; and,

(4) Burners who direct shipments of off-specification used oil from their facility to a used oil burner or first claim that used oil that is to be burned for energy recovery meets the used oil fuel specifications set forth in 279.11 of this regulation must also comply with Subpart H: Standards for Used Oil Fuel Marketers of this regulation.

c. This subpart does not apply to persons burning used oil that meets the used oil fuel specification of 279.11, provided that the burner complies with the requirements of Subpart H of this regulation.

279.61 Restrictions on Burning.

a. Off-specification used oil fuel may be burned for energy recovery in only the following devices:

(1) Industrial furnaces identified in R.61-79.260.10;

(2) Boilers, as defined in R.61-79.260.10, that are identified as follows:

(a) Industrial boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes;

(b) Utility boilers used to produce electric power, steam, heated or cooled air, or other gases or fluids for sale; or

(c) Used oil-fired space heaters, provided that the burner meets the provisions of 279.23 of Subpart C; or

b. Exemption.

(1) With the following exception, used oil burners may not process used oil unless they also comply with requirements of Subpart F of this regulation.

(2) Used oil burners may aggregate off-specification used oil with virgin oil or on-specification used oil for purposes of burning, but may not aggregate for purposes of producing on-specification used oil.

279.62 Notification.

a. Used oil burners that have not previously notified EPA of their used oil burning activities must notify EPA to identify their used oil burning activities. Even if a burner has previously notified EPA of hazardous waste management activities under section 3010 of RCRA and obtained an identification number, the used oil burner must renotify to identify used oil burning activities. In addition, the burner must obtain a permit from the Department.

b. A used oil burner who has not received an EPA identification number may obtain one by notifying the Department of their used oil activity by submitting a completed SCDHEC Form 2701.

279.63 Rebuttable Presumption for Used Oil.

a. To ensure that used oil managed at a used oil burner facility is not hazardous waste under the rebuttable presumption of 279.10.b.(1)(b), a used oil burner must determine whether the total halogen content of used oil managed at the facility is above or below 1,000 ppm.

b. The used oil burner must determine if the used oil contains above or below 1,000 ppm total halogens by:

(1) Testing the used oil;

(2) Applying knowledge of the halogen content of the used oil in light of the materials or processes used; or

(3) If the used oil has been received from a processor/re-refiner subject to regulation under Subpart F of this regulation, using information provided by the processor/re-refiner.

c. If the used oil contains greater than or equal to 1,000 ppm total halogens, it is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in Subpart D of R.61-79.261. The owner or operator may rebut the presumption by demonstrating that the used oil does not contain hazardous waste (for example, by using an analytical method from SW-846, Edition III, to show that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in Appendix VIII of R.61-79.261).

(1) The rebuttable presumption does not apply to metalworking oils/fluids containing chlorinated paraffins, if they are processed, through a tolling arrangement as described in 279.24.c., to reclaim metalworking oils/fluids. The presumption does apply to metalworking oils/fluids if such oils/fluids are recycled in any other manner, or disposed.

(2) The rebuttable presumption does not apply to used oils contaminated with chlorofluorocarbons (CFCs) reclaimed to the extent possible from refrigeration units where the CFCs are destined for reclamation. The rebuttable presumption does apply to used oils contaminated with CFCs that have been mixed with used oil from sources other than refrigeration units.

d. Records of analyses conducted or information used to comply with paragraphs a., b., and c. of this section must be maintained by the burner for at least three (3) years.

279.64 Used Oil Storage.

a. Used oil burners may not store used oil in units other than tanks, containers, or units subject to regulation under R.61-79.264 or 265.

b. Containers and aboveground tanks used to store used oil at burner facilities must be:

- (1) In good condition (no severe rusting, apparent structural defects or deterioration); and
- (2) Not leaking (no visible leaks).

c. Containers and tanks used to store used oil at burner facilities must be equipped with a secondary containment system capable of retaining the volumetric contents of the largest container.

(1) The secondary containment system must consist of, at a minimum:

- (a) Dikes, berms or retaining walls; and
- (b) A floor. The floor must cover the entire area within the dike, berm, or retaining wall.

(2) The entire containment system, including walls and floor, must be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater, or surface water.

d. Existing aboveground tanks used to store used oil at burner facilities must be equipped with a secondary containment system capable of retaining the volumetric contents of the largest tank.

(1) The secondary containment system must consist of, at a minimum:

(a) Dikes, berms or retaining walls; and

(b) A floor. The floor must cover the entire area within the dike, berm, or retaining wall except areas where existing portions of the tank meet the ground; or

(c) An equivalent secondary containment system approved by the Department.

(2) The entire containment system, including walls and floor, must be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater, or surface water.

e. New aboveground tanks used to store used oil at burner facilities must be equipped with a secondary containment system capable of retaining the volumetric contents of the largest tank.

(1) The secondary containment system must consist of, at a minimum:

(a) Dikes, berms or retaining walls; and

(b) A floor. The floor must cover the entire area within the dike, berm, or retaining wall; or

(c) An equivalent secondary containment system approved by the Department.

(2) The entire containment system, including walls and floor, must be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater, or surface water.

f. Labels.

(1) Containers and aboveground tanks used to store used oil at burner facilities must be labeled or marked clearly with the words "Used Oil."

(2) Fill pipes used to transfer used oil into underground storage tanks at burner facilities must be labeled or marked clearly with the words "Used Oil."

g. Upon detection of a release of used oil to the environment not subject to the requirements of R.61-92.280 Subpart F, a burner must perform the following cleanup steps:

(1) Stop the release;

(2) Contain the released used oil;

(3) Clean up and manage properly the released used oil and other materials; and

(4) If necessary, repair or replace any leaking used oil storage containers or tanks prior to returning them to service.

(5) Further assessment and remediation, if necessary, shall be directed by the Department.

h. Used oil burners are subject to all applicable Spill Prevention, Control and Countermeasures (40 CFR Part 112) in addition to the requirements of this subpart. Used oil generators are also subject to R.61-92.280 standards for used oil stored in underground tanks whether or not the used oil exhibits any characteristics of hazardous waste, in addition to the requirements of this subpart.

279.65 Tracking.

a. Used oil burners must keep a copy of the manifest for each used oil shipment accepted for burning. Records for each shipment must include the following information:

(1) The name and address of the transporter who delivered the used oil to the burner;

(2) The name and address of the generator or processor/re-refiner from whom the used oil was sent to the burner;

(3) The EPA identification number and the Department registration number of the transporter who delivered the used oil to the burner;

(4) The EPA identification number and the Department permit number (if applicable) of the generator or processor/re-refiner from whom the used oil was sent to the burner;

(5) The quantity of used oil accepted; and

(6) The date of acceptance.

b. The manifests and records described in paragraph a. of this section must be maintained for at least three (3) years.

c. A used oil burner must report to the Department, in the form of a letter, on an annual basis (by March 15 of each year), the following information concerning used oil activities during the previous calendar year:

(1) The EPA identification number, Department permit number, name, and address of the burner;

(2) The calendar year covered by the report; and

(3) The quantities of used oil accepted for burning.

279.66 Notices.

a. Before a burner accepts the first shipment of off-specification used oil fuel from a generator, transporter, or processor/re-refiner, the burner must provide to the generator, transporter, or processor/re-refiner a one-time written and signed notice certifying that:

(1) The burner has notified the Department stating the location and general description of his used oil management activities; and

(2) The burner will burn the used oil only in an industrial furnace or boiler identified in 279.61.a.

b. The certification described in paragraph a. of this section must be maintained for three (3) years from the date the burner last receives shipment of off-specification used oil from that generator, transporter, or processor/re-refiner.

279.67 Management of Residues. Burners who generate residues from the storage or burning of used oil must manage the residues as specified in 279.10.e.

SUBPART H: STANDARDS FOR USED OIL FUEL MARKETERS.

279.70 Applicability.

a. Any person who conducts either of the following activities is subject to the requirements of this subpart:

(1) Directs a shipment of off-specification used oil from their facility to a used oil burner; or

(2) First claims that used oil that is to be burned for energy recovery meets the used oil fuel specifications set forth in 279.11 of this regulation.

b. The following persons are not marketers subject to this subpart:

(1) Used oil generators, and transporters who transport used oil received only from generators, unless the generator or transporter directs a shipment of off-specification used oil from their facility to a used oil burner. However, processors/re-refiners who burn some used oil fuel for purposes of processing are considered to be burning incidentally to processing. Thus, generators and transporters who direct shipments of off-specification used oil to processor/re-refiners who incidentally burn used oil are not marketers subject to this subpart;

(2) Persons who direct shipments of on-specification used oil and who are not the first person to claim the oil meets the used oil fuel specifications of 279.11.

c. Any person subject to the requirements of this subpart must also comply with one of the following:

(1) Subpart C: Standards for Used Oil Generators;

(2) Subpart E: Standards for Used Oil Transporters and Transfer Facilities;

(3) Subpart F: Standards for Used Oil Processors and Re-refiners; or

(4) Subpart G: Standards for Used Oil Burners who Burn Off-Specification Used Oil for Energy Recovery.

279.71 Prohibitions. A used oil fuel marketer may initiate a shipment of off-specification used oil only to a used oil burner who:

- a. Has an EPA identification number and a Department permit number; and
- b. Burns the used oil in an industrial furnace or boiler identified in 279.61.a. of this regulation.

279.72 On-specification Used Oil Fuel.

a. A generator, transporter, processor/re-refiner, or burner may determine that used oil that is to be burned for energy recovery meets the fuel specifications of 279.11 of this regulation by performing analyses or obtaining copies of analyses or other information documenting that the used oil fuel meets the specifications.

b. A generator, transporter, processor/re-refiner, or burner who first claims that used oil that is to be burned for energy recovery meets the specifications for used oil fuel under 279.11 of this regulation, must keep copies of analyses of the used oil (or other information used to make the determination) for three (3) years.

279.73 Notification.

a. Used oil fuel marketers that have not previously notified the Department of their used oil fuel marketing activities must notify the Department to identify these used oil fuel marketing activities. Even if a used oil fuel marketer has previously notified EPA of hazardous waste management activities under 3010 of RCRA and obtained an identification number, the used oil fuel marketer must notify the Department to identify used oil fuel marketing activities. In addition, the used oil fuel marketer must obtain a permit from the Department.

b. A marketer who has not received an EPA identification number may obtain one by notifying the Department of their used oil activity by submitting a completed SCDHEC Form 2701.

279.74 Tracking.

a. Any used oil marketer who directs a shipment of off-specification used oil to a burner must keep a record of each shipment of used oil to a used oil burner. Records for each shipment must include the following information:

- (1) The name and address of the transporter who delivers the used oil to the burner;
- (2) The name and address of the burner who will receive the used oil;

(3) The EPA identification number and the Department registration number of the transporter who delivers the used oil to the burner;

(4) The EPA identification number and the Department permit number of the burner;

(5) The quantity of used oil shipped; and

(6) The date of shipment.

b. A generator, transporter, processor/re-refiner, or burner who first claims that used oil that is to be burned for energy recovery meets the fuel specifications under 279.11 of this regulation must keep a record of each shipment of used oil to an on-specification used oil burner. Records for each shipment must include the following information:

(1) The name and address of the facility receiving the shipment;

(2) The quantity of used oil fuel delivered;

(3) The date of shipment or delivery; and

(4) A cross-reference to the record of used oil analysis or other information used to make the determination that the oil meets the specification as required under 279.72.a.

c. The records described in paragraphs a. and b. of this section must be maintained for at least three (3) years.

279.75 Notices.

a. Before a used oil generator, transporter, or processor/re-refiner directs the first shipment of off-specification used oil fuel to a burner, he must obtain a one-time written and signed notice from the burner certifying that:

(1) The burner has notified the Department stating the location and general description of used oil management activities; and

(2) The burner will burn the off-specification used oil only in an industrial furnace or boiler identified in 279.61.a.

b. The certification described in paragraph a. of this section must be maintained for three (3) years from the date the last shipment of off-specification used oil is shipped to the burner.

SUBPART I: DISPOSAL OF USED OIL.

279.80 Applicability. The requirements of this subpart apply to all used oils that can not be recycled and are therefore being disposed at a solid waste management facility.

279.81 Disposal.

- a. Used oils that are identified as a hazardous waste and cannot be recycled in accordance with this regulation must be managed in accordance with the hazardous waste management requirements of R.61-79.260 through 266, 268, 270 and 124.
- b. Used oils that are identified as a non-hazardous waste must be disposed of by delivery to a used oil collection facility, used oil energy recovery facility, used oil fuel burner or to an authorized agent for delivery to a used oil collection facility, used oil energy recovery facility, used oil fuel burner or oil recycling facility.
- c. Used oils that are not hazardous wastes and cannot be recycled under this part, must be disposed in accordance with the requirements of R.61-79.257 and 258.

SUBPART J: RETAIL SALES REQUIREMENTS.

279.90 Retail Sales Requirements.

- a. Any motor, lubricating, or other oil offered for sale, at retail or at wholesale for direct retail sale, for use off the premises, shall be clearly marked or labeled as containing a recyclable material which must be disposed of only at a used oil collection facility. A statement on a container of lubricating or other oil offered for sale is in compliance with this section if it contains the following statement: 'Don't pollute. Conserve resources. Return used oil to collection centers.'
- b. Motor oil retailers shall post and maintain, at or near the point of sale, a durable and legible sign, not less than eleven (11) inches by fifteen (15) inches in size, informing the public of the importance of the proper collection and disposal of used oil and how and where used oil may be properly disposed.
- c. The Department may inspect any place, building, or premises subject to this subpart and issue warnings and citations to any person who fails to comply with the requirements of this subsection.

SUBPART K: MONITORING.

279.91 Monitoring. Should the Department confirm environmental and/or health problems associated with the collection, aggregation, storage, transportation, processing, re-refining or recycling of used oil, monitoring (including groundwater, surface water, and air quality monitoring and analysis, and product quality testing and analysis) may be required by the Department as appropriate and based on a case by case evaluation to ensure protection of the environment.

SUBPART L: USED OIL FILTER MANAGEMENT.

279.92 Used Oil Filter Management.

- a. Non-terne plated used oil filters that are not mixed with a hazardous waste as listed in R.61-79, may be disposed of in a municipal solid waste landfill provided all used oil filters are hot-drained for a minimum of twelve (12) hours using one of the following methods:

(1) Puncturing the filter anti-drain back valve or the filter dome end and hot-draining.

(2) Dismantling and hot-draining; or

(3) Any other equivalent hot-draining method which will remove used oil.

b. Used oil filters which are compacted to their smallest practical volume do not require hot-draining prior to disposal, provided the used oil is collected during crushing.

c. The used oil drained from the oil filters shall be processed, re-refined or otherwise recycled.

SUBPART M: PENALTIES.

279.93 Penalties.

A violation of this regulation subjects the violator to penalties in accordance with the Solid Waste Policy and Management Act and any amendments thereto.

SUBPART N: SEVERABILITY.

279.94 Severability. Should any section, paragraph, sentence, clause or phrase of this regulation be declared unconstitutional or invalid for any reason, the remainder of this regulation shall not be affected thereby.

SUBPART O: VARIANCES.

279.95 Variances. Any request for variances to these rules and regulations must be directed in writing to, and will be considered by the Department, on an individual basis.